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## 2. LBP

Eur Spine J. 2017 Jan 31. doi: 10.1007/s00586-017-4966-1.

### **Clinical classes of injured workers with chronic low back pain: a latent class analysis with relationship to working status.**

Carlesso LC<sup>1,2</sup>, Raja Rampersaud Y<sup>3</sup>, Davis AM<sup>4,5</sup>.

Author information

Abstract

**PURPOSE:**

To determine (a) clinical classes of injured workers with chronic low back pain (CLBP), (b) predictors of class membership and (c) associations of classes with baseline work status.

**METHODS:**

Patients with CLBP from a tertiary care outpatient clinic in Toronto, Canada were sampled. Latent class analysis was applied to determine class structure using physical, psychological and coping indicators. Classes were interpreted by class-specific means and analyzed for predictors of membership. Lastly, association of the classes with being off work was modeled.

**RESULTS:**

A 3-class model was chosen based on fit criteria, theoretical and clinical knowledge of this population. The resultant 3 classes represented low, moderate and high levels of clinical severity. Predictors of being in the high severity group compared to the low severity group were < high school education [odds ratio (OR) 3.06, 95% CI (1.47, 6.37)] and comorbidity total [OR 1.28, 95% CI (1.03, 1.59)]. High severity class membership was associated with four times increased risk of being off work at baseline compared to those in the low severity group [OR 3.98, 95% CI (1.61, 6.34)].

**CONCLUSIONS:**

In a cohort of injured workers with CLBP, 3 clinical classes were identified with distinct psychological and physical profiles. These profiles are useful in aiding clinicians to identify patients of high clinical severity who may be potentially at risk for problematic return to work.

**Treatment of hips helps**

J Eval Clin Pract. 2017 Jan 27. doi: 10.1111/jep.12705.

**Effects of manual therapy and exercise targeting the hips in patients with low-back pain-A randomized controlled trial.**

Bade M<sup>1</sup>, Cobo-Estevez M<sup>2</sup>, Neeley D<sup>3</sup>, Pandya J<sup>4</sup>, Gunderson T<sup>5</sup>, Cook C<sup>6</sup>.

Author information

**Abstract*****RATIONALE:***

The benefits of providing manual therapy and exercise targeting the hips in individuals with mechanical low-back pain (LBP) are not well established.

***OBJECTIVES:***

The objective in this study is to determine whether a formal prescriptive treatment protocol for the hips improves outcomes in patients with a primary complaint of mechanical LBP.

***METHODS:***

Eighty-four (84) subjects (50 males, 46.1 ± 16.2 years) were randomized to 1 of 2 groups: pragmatic treatment of the lumbar spine only (LBP) (n = 39) or pragmatic treatment of the lumbar spine and prescriptive treatment of bilateral hips (LBP + HIP) (n = 45). Pragmatic treatment of the lumbar spine was based upon published clinical guidelines. Prescriptive treatment of the hips involved the use of 3 hip exercises targeting the gluteal musculature and 3 mobilization techniques targeting the hips. Subjects were assessed at baseline, 2 weeks, and at discharge with the following measures: Modified Oswestry Disability Index, Numeric Pain Rating Scale, a global rating of change (GRoC) score, the patient acceptable symptom state (PASS), and patient satisfaction.

***RESULTS:***

At 2 weeks, significant differences between groups differences were found in GRoC and patient satisfaction (P < .05) favoring the LBP + HIP group. At discharge, there were significant differences on the Modified Oswestry Disability Index, numeric pain rating scale, GRoC, and patient satisfaction favoring the LBP + HIP group (P < .05). Effect sizes were small to medium.

***CONCLUSION:***

Our findings suggest that a prescriptive treatment of the hips may be of clinical value to individuals presenting with the primary complaint of mechanical LBP.

### 3. DISC

#### Progression of degeneration

Osteoarthritis Cartilage. 2017 Jan 13. pii: S1063-4584(17)30007-9. doi: 10.1016/j.joca.2017.01.001.

Progression, incidence, and risk factors for intervertebral disc degeneration in a longitudinal population-based cohort: the Wakayama Spine Study.

Teraguchi M<sup>1</sup>, Yoshimura N<sup>2</sup>, Hashizume H<sup>3</sup>, Yamada H<sup>1</sup>, Oka H<sup>4</sup>, Minamide A<sup>1</sup>, Nagata K<sup>1</sup>, Ishimoto Y<sup>1</sup>, Kagotani R<sup>1</sup>, Kawaguchi H<sup>5</sup>, Tanaka S<sup>6</sup>, Akune T<sup>7</sup>, Nakamura K<sup>7</sup>, Muraki S<sup>2</sup>, Yoshida M<sup>1</sup>.

Author information

#### Abstract

##### *OBJECTIVE:*

The present study examined the progression, incidence, and risk factors for intervertebral disc degeneration (DD) throughout the lumbar spine using magnetic resonance imaging (MRI) in a large population-based cohort.

##### *METHODS:*

We followed up 617 subjects for more than 4 years as part of the Wakayama Spine Study. 1) "Progression of DD" in each of the entire, upper (L1/2 to L3/4) and lower (L4/5 and L5/S1) lumbar spine was defined as Pfirrmann grade progression at follow-up in at least one disc in the affected region. 2) "Incidence of DD" in each of these regions was defined if all discs were grade 3 or lower (white disc) at baseline, and at least one disc had progressed to grade 4 or higher (black disc) at follow-up. Logistic regression analyses were used to determine the risk factors for progression and incidence of DD.

##### *RESULTS:*

DD progression and incidence in the entire lumbar spine were 52.0% and 31.6% in men, and 60.4% and 44.7% in women, respectively. Women was associated with DD progression in the upper lumbar spine (odds ratio [OR] = 1.68, 95% confidence interval [CI] = 1.18-2.42). Aging was associated with the incidence of DD in each region (entire: OR = 1.14, CI = 1.06-1.14; upper: OR = 1.10, CI = 1.05-1.15; lower: OR = 1.11, CI = 1.05-1.19). Diabetes mellitus (DM) was associated with the incidence of DD in the upper lumbar spine (OR = 6.83, CI = 1.07-133.7).

##### *CONCLUSION:*

This 4-year longitudinal study is the first to demonstrate DD progression and incidence in the lumbar spine and their risk factors in a large population-based cohort.

## 5. SURGERY

### Spondylo surgeries

Spine (Phila Pa 1976). 2017 Feb;42(3):E177-E185. doi: 10.1097/BRS.0000000000001731.

#### **Minimally Invasive Surgery Versus Open Surgery Spinal Fusion for Spondylolisthesis: A Systematic Review and Meta-analysis.**

Lu VM<sup>1</sup>, Kerezoudis P, Gilder HE, McCutcheon BA, Phan K, Bydon M.  
Author information

Abstract

#### *STUDY DESIGN:*

Systematic review and meta-analysis.

#### *OBJECTIVE:*

Compare minimally invasive surgery (MIS) and open surgery (OS) spinal fusion outcomes for the treatment of spondylolisthesis.

#### *SUMMARY OF BACKGROUND DATA:*

OS spinal fusion is an interventional option for patients with spinal disease who have failed conservative therapy. During the past decade, MIS approaches have increasingly been used, with potential benefits of reduced surgical trauma, postoperative pain, and length of hospital stay. However, current literature consists of single-center, low-quality studies with no review of approaches specific to spondylolisthesis only.

#### *METHODS:*

This first systematic review of the literature regarding MIS and OS spinal fusion for spondylolisthesis treatment was performed using the Preferred Reporting Items for Systematic reviews and Meta-Analyses guidelines for article identification, screening, eligibility, and inclusion. Electronic literature search of Medline/PubMed, Cochrane, EMBASE, and Scopus databases yielded 2489 articles. These articles were screened against established criteria for inclusion into this study.

#### *RESULTS:*

A total of five retrospective and five prospective articles with a total of 602 patients were found. Reported spondylolisthesis grades were I and II only. Overall, MIS was associated with less intraoperative blood loss (mean difference [MD], -331.04mL; 95% confidence interval [CI], -490.48 to -171.59; P<0.0001) and shorter length of hospital stay (MD, -1.74 days; 95% CI, -3.04 to -0.45; P=0.008). There was no significant difference overall between MIS and OS in terms of functional or pain outcomes. Subgroup analysis of prospective studies revealed MIS had greater operative time (MD, 19.00minutes; 95% CI, 0.90 to 37.10; P=0.04) and lower final functional scores (weighted MD, -1.84; 95% CI, -3.61 to -0.07; P=0.04) compared with OS.

#### *CONCLUSION:*

Current data suggests spinal fusion by MIS is a safe and effective approach to treat grade I and grade II spondylolisthesis. Moreover, although prospective trials associate MIS with better functional outcomes, longer-term and randomized trials are warranted to validate any association found in this study.

## 7. PELVIC ORGANS/WOMAN'S HEALTH

### Yoga helps mens pain

#### **Effect of yoga on the menstrual pain, physical fitness, and quality of life of young women with primary dysmenorrhea**

Journal of Bodywork & Movement Therapies , 02/10/2017Yonglitthipagon P, et al.

Analysts examined the impact of the specially–designed yoga program on the menstrual pain, physical fitness and quality of life (QOL) of non–athlete women with primary dysmenorrhea (PD) aged 18–22 years. There were significant improvements in menstrual pain, physical fitness and QOL in the yoga group more than the control group. Therefore, this specially–designed yoga program may be a possible complementary treatment for PD.

- Thirty-four volunteers were randomly assigned into control and yoga groups.
- Menstrual pain, physical fitness and QOL were determined at baseline and at the end of the 12-week study period.
- The participants of the yoga group were asked to practice yoga for 30 min per day, twice a week, for 12 weeks at home.
- The control group however, did not receive any form of exercise over the study period.

**Uterine scar**

J Minim Invasive Gynecol. 2017 Feb 1. pii: S1553-4650(17)30094-8. doi: 10.1016/j.jmig.2017.01.018.

**Impact of uterine scar on pain experienced during outpatient hysteroscopy: A Prospective Blinded Comparative Study.**

Wahba AH<sup>1</sup>, Hassan AM<sup>1</sup>, Kotb M<sup>1</sup>, ElShenoufy H<sup>1</sup>, Haggag HM<sup>2</sup>.

Author information

Abstract

**STUDY OBJECTIVE:**

To study the impact of uterine scar on pain experienced during outpatient hysteroscopy.

**DESIGN:**

A prospective blinded comparative study **DESIGN:** classification: (Canadian Task Force

Classification II-1) **SETTING:** Outpatient hysteroscopy clinic at a University Hospital

**PATIENTS:** We included 140 women in the childbearing period attending outpatient hysteroscopy clinic. Patients were divided into two groups; Group A included patients with previous uterine scar (n=70) and Group B included those with unscarred uterus (n =70). None of the patients had previous attempt of vaginal delivery.

**INTERVENTION:**

Diagnostic outpatient hysteroscopy without the use of anaesthesia or analgesia.

**MEASURE:**

ments: We assessed pain experienced during and immediately after the procedure using a 100 mm Visual Analogue scale (VAS). We also evaluated the successful completion of the procedure.

**RESULTS:**

There were no statistically significant differences in the pain scores between patients with scarred uterus and those with unscarred uterus during or immediately after

## 8. VISCERA

### Red meat intake increases Diverticulosis in men

Colon  
Original article

#### Meat intake and risk of diverticulitis among men

Yin Cao<sup>1,2,3</sup>, Lisa L Strate<sup>1</sup>, Brieze R Keeley<sup>1</sup>, Idy Tam<sup>6</sup>, Kana Wu<sup>3</sup>, Edward L Giovannucci<sup>3,7,8</sup>, Andrew T Chan

#### Author affiliations

#### Abstract

**Objective** Diverticulitis is a common disease with a substantial clinical and economic burden. Besides dietary fibre, the role of other foods in the prevention of diverticulitis is underexplored.

**Design** We prospectively examined the association between consumption of meat (total red meat, red unprocessed meat, red processed meat, poultry and fish) with risk of incident diverticulitis among 46 461 men enrolled in the Health Professionals Follow-Up Study (1986–2012). Cox proportional hazards models were used to compute relative risks (RRs) and 95% CIs.

**Results** During 651 970 person-years of follow-up, we documented 764 cases of incident diverticulitis. Compared with men in the lowest quintile (Q1) of total red meat consumption, men in the highest quintile (Q5) had a multivariable RR of 1.58 (95% CI 1.19 to 2.11; *p* for trend=0.01). The increase in risk was non-linear, plateauing after six servings per week (*p* for non-linearity=0.002). The association was stronger for unprocessed red meat (RR for Q5 vs Q1: 1.51; 95% CI 1.12 to 2.03; *p* for trend=0.03) than for processed red meat (RR for Q5 vs Q1: 1.03; 95% CI 0.78 to 1.35; *p* for trend=0.26). Higher consumption of poultry or fish was not associated with risk of diverticulitis. However, the substitution of poultry or fish for one serving of unprocessed red meat per day was associated with a decrease in risk of diverticulitis (multivariable RR 0.80; 95% CI 0.63 to 0.99).

**Conclusions** Red meat intake, particularly unprocessed red meat, was associated with an increased risk of diverticulitis. The findings provide practical dietary guidance for patients at risk of diverticulitis.

**Elemental diet and CD**

Saudi J Gastroenterol. 2017 Jan-Feb;23(1):20-27. doi: 10.4103/1319-3767.199110.

**Therapeutic efficacy of an elemental diet for patients with crohn's disease and its association with amino acid metabolism.**

Nakano M<sup>1</sup>, Tominaga K<sup>1</sup>, Hoshino A<sup>1</sup>, Sugaya T<sup>1</sup>, Kanke K<sup>2</sup>, Hiraishi H<sup>1</sup>.

Author information

**Abstract****BACKGROUND/AIM:**

We investigated the association between blood amino acid concentration changes caused by elemental diet (ED) and their relationship to its therapeutic effect.

**PATIENTS AND METHODS:**

Patients with active Crohn's disease (CD) followed ED for 12 weeks. Patients not previously treated with ED were defined as new ED, and those with previous ED therapy ( $\geq 900$  kcal/day) were defined as previous ED. Disease activity markers [Crohn's disease activity index (CDAI) and C-reactive protein (CRP) level], blood biochemistry test results, and plasma amino acid concentrations were measured before and after the treatment.

**RESULTS:**

Histidine (His), tryptophan (Trp), valine (Val), and methionine (Met) increased after the treatment in the 17 patients with clinical remission, however, no increase occurred in plasma amino acid concentrations in the 8 patients without remission. The multivariate index using AminoIndex™ technology (MIAI) was correlated with the CDAI ( $r = 0.475, P < 0.001$ ), and it decreased as patients' conditions improved during the treatment. All patients in the new ED group ( $n = 11$ ) exhibited increases in the nutritional indices, albumin level, and body mass index after treatment, as well as increased levels of His, Trp, Val, and phenylalanine. None of these changes were observed in the previous ED group ( $n = 14$ ).

**CONCLUSIONS:**

Plasma amino acid concentrations and MIAI may provide useful noninvasive markers for evaluating disease activity and response to treatment. ED was effective in improving disease activity, nutritional status, and plasma amino acid levels, and thus it may be particularly effective for poorly nourished patients with CD who have not previously undergone this treatment.

**Cannabinoids and IBS**

Aliment Pharmacol Ther. 2017 Feb 6. doi: 10.1111/apt.13958.

**Randomised clinical trial: the analgesic properties of dietary supplementation with palmitoylethanolamide and polydatin in irritable bowel syndrome.**

Cremon C<sup>1</sup>, Stanghellini V<sup>1</sup>, Barbaro MR<sup>1</sup>, Cogliandro RF<sup>1</sup>, Bellacosa L<sup>1</sup>, Santos J<sup>2</sup>, Vicario M<sup>2</sup>, Pigrau M<sup>2</sup>, Alonso Cotoner C<sup>2</sup>, Lobo B<sup>2</sup>, Azpiroz F<sup>2</sup>, Bruley des Varannes S<sup>3</sup>, Neunlist M<sup>3</sup>, DeFilippis D<sup>4</sup>, Iuvone T<sup>4</sup>, Petrosino S<sup>5,6</sup>, Di Marzo V<sup>5</sup>, Barbara G<sup>1</sup>.

Author information

Abstract

**BACKGROUND:**

Intestinal immune activation is involved in irritable bowel syndrome (IBS) pathophysiology. While most dietary approaches in IBS involve food avoidance, there are fewer indications on food supplementation. Palmitoylethanolamide, structurally related to the endocannabinoid anandamide, and polydatin are dietary compounds which act synergistically to reduce mast cell activation.

**AIM:**

To assess the effect on mast cell count and the efficacy of palmitoylethanolamide/polydatin in patients with IBS.

**METHODS:**

We conducted a pilot, 12-week, randomised, double-blind, placebo-controlled, multicentre study assessing the effect of palmitoylethanolamide/polydatin 200 mg/20 mg or placebo b.d. on low-grade immune activation, endocannabinoid system and symptoms in IBS patients. Biopsy samples, obtained at screening visit and at the end of the study, were analysed by immunohistochemistry, enzyme-linked immunoassay, liquid chromatography and Western blot.

**RESULTS:**

A total of 54 patients with IBS and 12 healthy controls were enrolled from five European centres. Compared with controls, IBS patients showed higher mucosal mast cell counts ( $3.2 \pm 1.3$  vs.  $5.3 \pm 2.7\%$ ,  $P = 0.013$ ), reduced fatty acid amide oleoylethanolamide ( $12.7 \pm 9.8$  vs.  $45.8 \pm 55.6$  pmol/mg,  $P = 0.002$ ) and increased expression of cannabinoid receptor 2 ( $0.7 \pm 0.1$  vs.  $1.0 \pm 0.8$ ,  $P = 0.012$ ). The treatment did not significantly modify IBS biological profile, including mast cell count. Compared with placebo, palmitoylethanolamide/polydatin markedly improved abdominal pain severity ( $P < 0.05$ ).

**CONCLUSIONS:**

The marked effect of the dietary supplement palmitoylethanolamide/polydatin on abdominal pain in patients with IBS suggests that this is a promising natural approach for pain management in this condition. Further studies are now required to elucidate the mechanism of action of palmitoylethanolamide/polydatin in IBS. ClinicalTrials.gov number, [NCT01370720](https://clinicaltrials.gov/ct2/show/study/NCT01370720).

### Male pelvic floor health

#### **The Role of Pelvic Floor Muscles in Male Sexual Dysfunction and Pelvic Pain.**

##### **Review article**

Cohen D, et al. Sex Med Rev. 2016.

Show full citation

##### Abstract

**INTRODUCTION:** Sexual function is essential to good health and well-being in men. The relationship between male sexual function, pelvic floor function, and pelvic pain is complex and only beginning to be appreciated.

**AIM:** The objectives of the current review are to examine these complex relationships, and to demonstrate how pelvic floor physical therapy can potentially improve the treatment of various male sexual dysfunctions, including erectile dysfunction and dysfunction of ejaculation and orgasm.

**METHODS:** Contemporary data on pelvic floor anatomy and function as they relate to the treatment of various male sexual dysfunctions were reviewed.

**MAIN OUTCOME MEASURES:** Examination of evidence supporting the association between the male pelvic floor and erectile dysfunction, ejaculatory/orgasmic dysfunction, and chronic prostatitis/chronic pelvic pain syndrome, respectively.

**RESULTS:** Evidence suggests a close relationship between the pelvic floor and male sexual dysfunction and a potential therapeutic benefit from pelvic floor therapy for men who suffer from these conditions.

**CONCLUSION:** Pelvic floor physical therapy is a necessary tool in a more comprehensive bio-neuromusculoskeletal-psychosocial approach to the treatment of male sexual dysfunction and pelvic pain.

## Healthy bladder

Int J Clin Pract. 2011 Oct; 65(10): 1026–1036.

doi: 10.1111/j.1742-1241.2011.02763.x

PMCID: PMC3206217

### **A healthy bladder: a consensus statement**

E S Lukacz,<sup>1</sup> C Sampsel,<sup>2</sup> M Gray,<sup>3</sup> S MacDiarmid,<sup>4</sup> M Rosenberg,<sup>5</sup> P Ellsworth,<sup>6</sup> and M H Palmer<sup>7</sup>

A panel of experts in urology, urogynecology, nursing, and behavioral therapy convened in 2010 to discuss the importance of a healthy bladder on overall health. They determined that a consensus statement was necessary to raise awareness among the general public, healthcare providers, payors, and policymakers, with the goals of minimizing the impact of poor bladder health and stimulating primary prevention of bladder conditions. In this statement, ‘healthy’ bladder function is described, as well as internal and external factors that influence bladder health. It is suggested that primary prevention strategies should be aimed at providing education regarding normal lower urinary tract structures and functioning to the public, including patients and healthcare providers. This education may promote the achievement of optimal bladder health by increasing healthy bladder habits and behaviors, awareness of risk factors, healthcare seeking, and clinician engagement and reducing stigma and other barriers to treatment. Promoting optimal bladder health may reduce the personal, societal and economic impact of bladder conditions, including anxiety and depression and costs associated with conditions or diseases and their treatment. While adopting healthy bladder habits and behaviors may improve or maintain bladder health, it is important to recognize that certain symptoms may indicate the presence of conditions that require medical attention; many bladder conditions are treatable with a range of options for most bladder conditions. Lastly, the authors propose clinical directives based on persuasive and convergent research to improve and maintain bladder health. The authors hope that this statement will lead to promotion and achievement of optimal bladder health, which may improve overall health and help minimize the effects of bladder conditions on the public, healthcare professionals, educators, employers, and payors. The advisors are in consensus regarding the recommendations for improving and maintaining bladder health presented herein. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3206217/>

**Early life stress and visceral problems**

Pain. 2017 Feb;158(2):296-305. doi: 10.1097/j.pain.0000000000000759.

**Amygdala-mediated mechanisms regulate visceral hypersensitivity in adult females following early life stress: importance of the glucocorticoid receptor and corticotropin-releasing factor.**

Prusator DK<sup>1</sup>, Greenwood-Van Meerveld B.

Author information

**Abstract**

Alterations in amygdala activity are apparent in women who report a history of early life stress (ELS) and those diagnosed with chronic pain disorders.

Chronic stress in adulthood induces visceral hypersensitivity by alterations in glucocorticoid receptor (GR) and corticotropin-releasing factor (CRF) expression within the central amygdala (CeA). Here, we hypothesized that unpredictable ELS, previously shown to induce visceral hypersensitivity in adult female rats, alters GR and CRF expression in the CeA. After neonatal ELS, visceral sensitivity and GR and CRF gene expression were quantified in adult female rats. After unpredictable ELS, adult female rats exhibited visceral hypersensitivity and increased expression of GR and CRF in the CeA. After predictable ELS, adult female rats demonstrated normosensitive behavioral pain responses and upregulation of GR but not CRF in the CeA. After the ELS paradigms, visceral sensitivity and gene expression within the CeA were unaffected in adult male rats. The role of GR and CRF in modulating visceral sensitivity in adult female rats after ELS was investigated using oligodeoxynucleotide sequences targeted to the CeA for knockdown of GR or CRF. Knockdown of GR increased visceral sensitivity in all rats but revealed an exaggerated visceral hypersensitivity in females with a history of predictable or unpredictable ELS compared with that of controls.

Knockdown of CRF expression or antagonism of CRF1R in the CeA attenuated visceral hypersensitivity after unpredictable ELS. This study highlights a shift in GR and CRF regulation within the CeA after ELS that underlies the development of visceral hypersensitivity in adulthood.

## 11. UPPER C SPINE

### Dissection seasonal variations

#### **Seasonal variation in cervical artery dissection in the Hunter New England region, New South Wales, Australia: A retrospective cohort study**

Lucy C. Thomas Andrew P. Makaroff Chris Oldmeadow John R. Attia Christopher R. Levi

DOI: <http://dx.doi.org/10.1016/j.math.2016.10.007> Feb.17 Vol 27 pgs 106 - 111

#### **Background**

Cervical artery dissection (CAD) is a leading cause of ischemic stroke among middle aged adults, yet the aetiology remains poorly understood. There are reports from colder northern hemisphere sites of a seasonal pattern in the incidence of CAD. Seasonality may suggest some transient putative pro-inflammatory mechanism but it is unknown whether this also exists in temperate climates.

#### **Aims**

To investigate the seasonal variation in incidence of CAD in the xx Region, Australia, and to compare seasonal incidence and selected clinical features between cases of carotid and vertebral artery dissection.

#### **Methods**

This retrospective observational study investigated seasonal variation in CAD from a regional stroke register between 2006 and 2014. Clinical features and site of dissection were dichotomized into autumn-winter and spring-summer groups and compared with Chi<sup>2</sup> analysis.

#### **Results**

61 CAD events were identified. A strong trend was identified for CAD to occur more frequently in autumn-winter compared to spring-summer (38, 62.30% vs. 23, 37.70%;  $p = 0.054$ ). Males were significantly more likely to present with vertebral artery dissection (VAD) than females (27, 73.0% vs 10, 41.7%;  $p = 0.014$ ). A history of mild trauma was more common in VAD than internal carotid artery dissection (ICAD) (14, 41.2% vs 3, 13.0%;  $p = 0.023$ ). Cases of VAD were more likely to have had an elevated white cell count than ICAD (16, 47.1% vs 5, 20.8%;  $p = 0.041$ ).

#### **Conclusions**

The findings suggest seasonal variation in the CAD incidence in a temperate region of Australia. Clinicians should be vigilant for CAD or risk of CAD during the colder months.

### 13. CRANIUM/TMJ

#### Occlusion and upper C movement

##### **Does altered mandibular position and dental occlusion influence upper cervical movement: A cross-sectional study in asymptomatic people**

Francis Grondin Toby Hall Harry von Piekartz

DOI: <http://dx.doi.org/10.1016/j.math.2016.06.007> Feb. 2017 Vol 27 Pgs 85 - 90

##### **Objective**

Gross mandibular position and masticatory muscle activity have been shown to influence cervical muscles electromyographic activity. The purpose of this study was to investigate the influence of three different mandible positions including conscious occlusion, tongue tip against the anterior hard palate (Palate tongue position) and natural resting position (Rest), on sagittal plane cervical spine range of motion (ROM) as well as the flexion-rotation test (FRT) in asymptomatic subjects.

##### **Materials and methods**

An experienced single blinded examiner evaluated ROM using an Iphone in 22 subjects (7 females; mean age of 29.91years, SD 5.44).

##### **Results**

Intra-rater reliability for range recorded was good for the FRT with ICC (**intraclass correlation**) 0.95 (95% CI: 0.88–0.98) and good for sagittal plane cervical ROM with ICC 0.90 (95% CI: 0.77–0.96). A repeated measures ANOVA determined that mean ROM recorded during the FRT differed significantly between assessment points ( $F(1.99, 41.83) = 19.88, P < 0.001$ ). Bonferroni Post hoc tests revealed that both conscious Occlusion and Palate tongue position elicited a significant large reduction in ROM recorded during the FRT from baseline ( $p < 0.01$ ). Despite this, one activation strategy did not influence ROM more than the other. An additional repeated measures ANOVA determined that mean sagittal cervical ROM did not significantly vary between assessment points ( $F(2, 42) = 8.18, P = 0.08$ ).

##### **Conclusion**

This current study provided further evidence for the influence of the temporomandibular region on upper cervical ROM. Results suggest that clinicians should focus on the natural mandible rest position when evaluating upper cervical mobility.

## 14. HEADACHES

### CV disease increased in migraine sufferers

Am J Med. 2017 Jan 18. pii: S0002-9343(17)30031-1. doi: 10.1016/j.amjmed.2016.12.028.

#### **Migraine Headache and Long Term Cardiovascular Outcomes: An extended follow-up of the Women's Ischemia Syndrome Evaluation.**

Rambarat CA<sup>1</sup>, Elgendy IY<sup>2</sup>, Johnson BD<sup>3</sup>, Reis SE<sup>4</sup>, Thompson DV<sup>5</sup>, Sharaf BL<sup>6</sup>, Bittner V<sup>7</sup>, Sopko G<sup>8</sup>, Bairey Merz CN<sup>9</sup>, Pepine CJ<sup>2</sup>, Ahmed B<sup>10</sup>.

Author information

Abstract

#### **BACKGROUND:**

The association between migraine headache and cardiovascular events has been inconsistent. This study determines the long-term risk of cardiovascular events among women with and without a history of migraine headache who were under evaluation for suspected myocardial ischemia in the Women's Ischemia Syndrome Evaluation (WISE).

#### **METHODS:**

The WISE is a National Heart, Lung and Blood Institute sponsored prospective, multicenter study which aims to improve myocardial ischemia evaluation in women. A total of 936 women presenting with symptoms of myocardial ischemia underwent structured data collection and coronary angiography. Information pertaining to migraine headache was available in 917 women. All-cause mortality data were available on all women for a median of 9.5 years and non-fatal cardiovascular event data were available on 888 women for a median of 6.5 years.

#### **RESULTS:**

A total of 224 (24.4%) women reported a history of migraine headache. Compared with women who did not report a history of migraine headache, women with a history of migraine headache had an increased adjusted risk of cardiovascular event (cardiovascular death, non-fatal myocardial infarction, heart failure or stroke) (HR 1.83 CI 1.22-2.75) at a median follow up of 6.5 years. This result was driven mainly by a two-fold increase in the risk of stroke (HR 2.33 CI 1.16-4.68).

#### **CONCLUSION:**

Among women being evaluated for ischemic heart disease, those reporting a history of migraine headache had increased risk of future cardiovascular events on long-term follow up. This risk was primarily driven by a more than two-fold increase in the risk of stroke.

### Impact of

#### **The association of headache frequency with pain interference and the burden of disease is mediated by depression and sleep quality, but not anxiety, in chronic tension type headache**

The Journal of Headache and Pain, 02/10/2017 PalaciosCena M, et al. –

**I**n chronic tension–type headache (CTTH), depression and sleep quality, but not anxiety, mediated the relationship between headache frequency and the emotional burden of disease and pain interference.

#### Methods

- A total of 193 individuals with CTTH participated.
- The authors collected headache features with a 4-weeks headache diary.
- For assessing anxiety and depression, the Hospital Anxiety and Depression Scale was used.
- Headache Disability Inventory evaluated the burden of headache.
- They determined pain interference with the bodily pain domain (SF-36 questionnaire).
- They assessed sleep quality with Pittsburgh Sleep Quality Index.
- They conducted path analyses with maximum likelihood estimations to determine the direct and indirect effects of depression, anxiety, and sleep quality on the frequency of headaches.

#### Results

- The authors observed 2 paths: the 1<sup>st</sup> with depression and the 2<sup>nd</sup> with sleep quality as mediators.
- Direct impacts were observed from sleep quality, emotional burden of disease and pain interference on depression, and from depression to headache frequency.
- The 1<sup>st</sup> path demonstrated indirect effects of depression from emotional burden and from sleep quality to headache frequency (first model  $R^2 = 0.12$ ).
- On headache frequency, direct effects from the 2<sup>nd</sup> path were from depression and pain interference on sleep quality and from sleep quality.
- On headache frequency, sleep quality indirectly mediated the effects of depression, emotional burden and pain interference (second model  $R^2 = 0.18$ ).

### Cardiovascular involvement

#### **Arterial hypertension in migraine: Role of familial history and cardiovascular phenotype**

Autonomic Neuroscience: Basic and Clinical, 02/07/2017 Babayan L, et al.

**D**ata indicated increased vasomotor reactivity in migraine patients, with or without concomitant hypertension. This was further associated with the family history of cardiovascular diseases.

- The study evaluated autonomic regulation in migraine patients with and without hypertension.
- 104 patients with migraine, aged  $34 \pm 10$  y, including 28 with and 76 without hypertension (M + AH and M - AH groups, respectively) were studied.
- 88 healthy volunteers matched by age and sex formed the control group.
- The authors examined the autonomic regulation of circulation with the tilt-table test, deep-breathing and Valsalva Maneuver, handgrip test, cold-stress induced vasoconstriction, arterial baroreflex, and blood pressure variability measurements.
- In migraine patients with concomitant hypertension reduced arterial baroreflex was observed, whereas other parameters of cardiac autonomic regulation were unchanged.
- In contrast, they observed enhancement of most indicators of vasomotor reactivity (blood pressure response to the hand-grip, Valsalva maneuver and cold vasoconstriction) in migraine patients with no significant differences between migraine patients with and without hypertension.
- A family history of cardiovascular disorders was observed commonly among patients from both M + AH and M - AH groups.

## 20 A. ROTATOR CUFF

### Stab of scapula changes infraspinatus

#### Effect of scapular stabilization during cross-body stretch on the hardness of infraspinatus, teres minor, and deltoid muscles: An ultrasonic shear wave elastography study

Jun Umehara Satoshi Hasegawa Masatoshi Nakamura Satoru Nishishita Hiroki Umegaki Hiroki Tanaka Kosuke Fujita Ken Kusano Noriaki Ichihashi

DOI: <http://dx.doi.org/10.1016/j.math.2016.10.004> February 2017 Volume 27, Pages 91–96

#### Highlights

- The effect of scapular stabilization during cross-body stretch was examined.
- Shear elastic modulus was used as an index to quantify muscle hardness.
- Scapular stabilization during cross-body stretch decreases infraspinatus hardness.
- Cross-body stretch without scapular stabilization is ineffective.
- Manual scapular stabilization during cross-body stretch is an efficient maneuver.

#### Background

Posterior shoulder tightness is a contributing factor to shoulder injuries. Cross-body stretch is a method frequently prescribed to stretch the posterior shoulder structures. This stretching is performed horizontally adducting the shoulder with or without manual stabilization of the scapula by the therapist. However, no studies have investigated the effect of scapular stabilization during cross-body stretch using shear elastic modulus as an index of muscle hardness in vivo.

#### Objectives

The aim of this study was to quantitatively examine, using ultrasonic shear wave elastography, whether scapular stabilization during cross-body stretch effectively decreased the hardness of the infraspinatus, the teres minor, or the posterior portion of the deltoid muscles.

#### Design

A randomized, repeated-measures, cross-over design.

#### Method

Twenty healthy men participated in this study. The shear elastic modulus of the teres minor, the superior and inferior portions of the infraspinatus, and the posterior portion of the deltoid were measured before, and immediately after cross-body stretch with and without scapular stabilization.

#### Results

The shear elastic modulus of the superior and inferior portions of the infraspinatus decreased significantly after cross-body stretch with scapular stabilization, but there was no significant change in the shear modulus of the measured muscles after cross-body stretch without scapular stabilization.

## Conclusions

Our results suggest that manual scapular stabilization during cross-body stretch effectively decreases the hardness of the infraspinatus muscle.

## 21. ADHESIVE CAPSULITIS

After shoulder surgery (11%)

Arch Orthop Trauma Surg. 2017 Jan 28. doi: 10.1007/s00402-016-2589-3.

### **Incidence and prognostic factors for postoperative frozen shoulder after shoulder surgery: a prospective cohort study.**

Koorevaar RC<sup>1</sup>, Van't Riet E<sup>2</sup>, Ipskamp M<sup>3</sup>, Bulstra SK<sup>4</sup>.

Author information

Abstract

#### *PURPOSE:*

Frozen shoulder is a potential complication after shoulder surgery. It is a clinical condition that is often associated with marked disability and can have a profound effect on the patient's quality of life. The incidence, etiology, pathology and prognostic factors of postoperative frozen shoulder after shoulder surgery are not known. The purpose of this explorative study was to determine the incidence of postoperative frozen shoulder after various operative shoulder procedures. A second aim was to identify prognostic factors for postoperative frozen shoulder after shoulder surgery.

#### *METHODS:*

505 consecutive patients undergoing elective shoulder surgery were included in this prospective cohort study. Follow-up was 6 months after surgery. A prediction model was developed to identify prognostic factors for postoperative frozen shoulder after shoulder surgery using the TRIPOD guidelines. We nominated five potential predictors: gender, diabetes mellitus, type of physiotherapy, arthroscopic surgery and DASH score.

#### *RESULTS:*

Frozen shoulder was identified in 11% of the patients after shoulder surgery and was more common in females (15%) than in males (8%). Frozen shoulder was encountered after all types of operative procedures. A prediction model based on four variables (diabetes mellitus, specialized shoulder physiotherapy, arthroscopic surgery and DASH score) discriminated reasonably well with an AUC of 0.712.

#### *CONCLUSIONS:*

Postoperative frozen shoulder is a serious complication after shoulder surgery, with an incidence of 11%. Four prognostic factors were identified for postoperative frozen shoulder: diabetes mellitus, arthroscopic surgery, specialized shoulder physiotherapy and DASH score. The combination of these four variables provided a prediction rule for postoperative frozen shoulder with reasonable fit.

## 25. WRIST AND HAND

### Thumb braces

Bone Joint J. 2017 Feb;99-B(2):237-244. doi: 10.1302/0301-620X.99B2.37684.

#### **The effect of two different orthoses on pain, hand function, patient satisfaction and preference in patients with thumb carpometacarpal osteoarthritis: a multicentre, crossover, randomised controlled trial.**

Vegt AE<sup>1</sup>, Grond R<sup>2</sup>, Grünschke JS<sup>1</sup>, Boomsma MF<sup>2</sup>, Emmelot CH<sup>2</sup>, Dijkstra PU<sup>1</sup>, Sluis CK<sup>1</sup>.

Author information

Abstract

#### *AIMS:*

The aim of this study was to compare the Push Ortho Thumb Brace CMC and a custom-made orthosis in the treatment of patients with primary osteoarthritis of the carpometacarpal joint of the thumb. Our outcome measures were pain scores, tests of hand function, patient satisfaction and patient preference.

#### *PATIENTS AND METHODS:*

A multicentre crossover randomised controlled trial was conducted which included 63 patients (44 women) with primary osteoarthritis of the carpometacarpal joint of the thumb. Of these, 59 patients with a mean age of 60.1 years (standard deviation 8.2), completed the study. Patients used both orthoses for two weeks with a two-week washout period in-between. Pain was measured on a 10-cm visual analogue scale. Hand function was assessed using the Jebsen Taylor Hand Function test, Nine Hole Peg Test, key grip, pinch grip and Functional Index for Hand Osteoarthritis. Patient preference was assessed using the Dutch version of the Quebec User Evaluation of Satisfaction with Assistive Technology score.

#### *RESULTS:*

Both orthoses resulted in a minor reduction in pain scores without significant difference between the two orthoses. The Push Ortho Thumb Brace CMC interfered less with key grip ( $p < 0.001$ ) and the Nine Hole Peg Test ( $p < 0.001$ ) than the custom-made orthosis. The Push Ortho Thumb Brace CMC had a higher patient satisfaction ( $p < 0.001$ ) and most patients preferred this orthosis for future use.

#### *CONCLUSION:*

When considering an orthosis for osteoarthritis of the carpometacarpal joint of the thumb, patients may prefer the Push Ortho Thumb Brace CMC. Cite this article: Bone Joint J 2017;99-B:237-44.

## 28. REPLACEMENTS

### Scar from different approaches

Eur Radiol. 2017 Mar;27(3):1312-1321. doi: 10.1007/s00330-016-4455-7. Epub 2016 Jun 24.

#### **MR imaging of soft tissue alterations after total hip arthroplasty: comparison of classic surgical approaches.**

Agten CA<sup>1,2</sup>, Sutter R<sup>3,4</sup>, Dora C<sup>5,4</sup>, Pfirrmann CW<sup>3,4</sup>.

Author information

Abstract

#### *OBJECTIVES:*

To compare soft-tissue changes after total hip arthroplasty with posterior, direct-lateral, anterolateral, or anterior surgical approaches.

#### *METHODS:*

MRI of 120 patients after primary total hip arthroplasty (30 per approach) were included. Each MRI was assessed by two readers regarding identification of surgical access, fatty muscle atrophy (Goutallier classification), tendon quality (0 = normal, 1 = tendinopathy, 2 = partial tear, 3 = avulsion), and fluid collections. Readers were blinded to the surgical approach.

#### *RESULTS:*

Surgical access was correctly identified in all cases. The direct lateral approach showed highest Goutallier grades and tendon damage for gluteus minimus muscle (2.07-2.67 and 2.00-2.77;  $p = 0.017$  and  $p = 0.001$  for readers 1 and 2, respectively) and tendon (2.30/1.67;  $p < 0.0005$  for reader 1/2), and the lateral portion of the gluteus medius tendon (2.77/2.20;  $p < 0.0005$  for reader 1/2). The posterior approach showed highest Goutallier grades and tendon damage for external rotator muscles (1.97-2.67 and 1.57-2.40;  $p < 0.0005$ -0.006 for reader 1/2) and tendons (1.41-2.45 and 1.93-2.76;  $p < 0.0005$  for reader 1/2). The anterolateral and anterior approach showed less soft tissue damage. Fluid collections showed no differences between the approaches.

#### *CONCLUSIONS:*

MRI is well suited to identify surgical approaches after THA. The anterior and anterolateral approach showed less soft tissue damage compared to the posterior and direct lateral approach.

#### *KEY POINTS:*

- Identification of the surgical approach is well possible with MR imaging.
- Anterolateral/anterior approaches show less soft-tissue damage compared to lateral/posterior approaches.
- Posterior approaches show marked damage to external rotator tendons and muscles.
- After direct lateral approaches the gluteus minimus tendon/muscle show severe damage.

**Variation between countries**

Arthritis Care Res (Hoboken). 2017 Feb 2. doi: 10.1002/acr.23197.

**Lifetime risk of primary total hip replacement surgery for osteoarthritis from 2003-2013: A multi-national analysis using national registry data.**

Ackerman IN<sup>1</sup>, Bohensky MA<sup>2</sup>, de Steiger R<sup>1,3,4</sup>, Brand CA<sup>1</sup>, Eskelinen A<sup>5</sup>, Fenstad AM<sup>6</sup>, Furnes O<sup>6,7</sup>, Graves SE<sup>4</sup>, Haapakoski J<sup>8</sup>, Mäkelä K<sup>8,9</sup>, Mehnert F<sup>10,11</sup>, Nemes S<sup>12</sup>, Overgaard S<sup>11,13,14</sup>, Pedersen AB<sup>10</sup>, Garellick G<sup>12,15</sup>.

Author information

Abstract

**OBJECTIVE:**

To compare the lifetime risk of total hip replacement surgery (THR) for osteoarthritis (OA) between countries, and over time.

**METHODS:**

Data on primary THR procedures performed for OA in 2003 and 2013 were extracted from national arthroplasty registries in Australia, Denmark, Finland, Norway and Sweden. Life tables and population data were also obtained for each country. Lifetime risk of THR was calculated for 2003 and 2013 using registry, life table and population data.

**RESULTS:**

In 2003, lifetime risk of THR ranged from 8.7% (Denmark) to 15.9% (Norway) for females, and from 6.3% (Denmark) to 8.6% (Finland) for males. With the exception of females in Norway (where lifetime risk started and remained high), lifetime risk of THR increased significantly for both sexes in all countries from 2003 to 2013. In 2013, lifetime risk of THR was as high as 1 in 7 women in Norway, and 1 in 10 males in Finland. Females consistently demonstrated the highest lifetime risk of THR at both time points. Notably, lifetime risk for females in Norway was approximately double the risk for males in 2003 (females: 15.9%, 95% confidence interval (CI) 15.6% to 16.1%; males: 6.9%, 95%CI 6.7% to 7.1%) and 2013 (females: 16.0%, 95%CI 15.8% to 16.3%; males: 8.3%, 95%CI 8.1 to 8.5%).

**CONCLUSION:**

Using representative, population-based data, this study found statistically significant increases in the lifetime risk of THR in five countries over a 10-year period, and substantial between-sex differences. These multi-national risk estimates can inform resource planning for OA service delivery. This article is protected by copyright. All rights reserved.

### 37. OSTEOARTHRITIS/KNEE

#### Cortisone injections

BMC Musculoskelet Disord. 2017 Jan 26;18(1):44. doi: 10.1186/s12891-017-1401-z.

#### **Accuracy of injection and short-term pain relief following intra-articular corticosteroid injection in knee osteoarthritis - an observational study.**

Hirsch G<sup>1</sup>, O'Neill TW<sup>2,3</sup>, Kitas G<sup>4</sup>, Sinha A<sup>5</sup>, Klocke R<sup>4,3</sup>.

Author information

Abstract

#### **BACKGROUND:**

Intra-articular corticosteroid injections (IACI) are effective treatments for pain in knee osteoarthritis (KOA) but treatment response varies. There is uncertainty as to whether structural factors such as accurate placement of IACI affect outcome. We examined this question in a pragmatic observational study, using ultrasound (US) to verify accuracy of IACI.

#### **METHODS:**

105 subjects with KOA (mean age 63.1 years, 59% female) routinely referred for IACI underwent assessment of demographic factors, x-ray and US of the knee before aspiration and IACI (based on clinical landmarks) with 40 mg triamcinolone acetonide with lignocaine plus a small amount of atmospheric air by an independent physician. US demonstration of intra-articular mobile air, i.e. a positive air arthrosonogram, was used to determine accurate placement of injection. Both patients and injecting physicians were blind to the US findings. Pain at baseline, three and nine weeks post injection was assessed using the 500 mm WOMAC pain subscale and response defined as  $\geq 40\%$  reduction in pain from baseline. Inter-observer reliability of air-arthrosonogram assessment was good:  $\kappa$  0.79 (three raters).

#### **RESULTS:**

Sixty-three subjects (60.6%) were responders at three weeks and 43 (45.7%) at nine weeks. Seventy-four subjects (70.5%) had a positive arthrosonogram. A positive air arthrosonogram did not associate with a higher rate of response to treatment (p 0.389 at three weeks, p 0.365 at nine weeks). There was no difference in US effusion depth, power Doppler signal or radiographic grade between responders and non-responders to the injection, but female gender associated with response at 3 weeks and previous injection with non-response at 9 weeks.

#### **CONCLUSIONS:**

Accurate intra-articular injection of corticosteroid results did not result in superior outcome in terms of pain compared to inaccurate injection in symptomatic knee OA.

#### 44. RHUMATOID ARTHRITIS

##### Impact of diet

Ann Rheum Dis. 2017 Jan 30. pii: annrheumdis-2016-210431. doi: 10.1136/annrheumdis-2016-210431.

##### **Long-term dietary quality and risk of developing rheumatoid arthritis in women.**

Hu Y<sup>1</sup>, Sparks JA<sup>2</sup>, Malspeis S<sup>2</sup>, Costenbader KH<sup>2</sup>, Hu FB<sup>3,4</sup>, Karlson EW<sup>2</sup>, Lu B<sup>2</sup>.

Author information

Abstract

##### *OBJECTIVES:*

To evaluate the association between long-term dietary quality, measured by the 2010 Alternative Healthy Eating Index, and risk of rheumatoid arthritis (RA) in women.

##### *METHODS:*

We prospectively followed 76 597 women in the Nurses' Health Study aged 30-55 years and 93 392 women in the Nurses' Health Study II aged 25-42 years at baseline and free from RA or other connective tissue diseases. The lifestyle, environmental exposure and anthropometric information were collected at baseline and updated biennially. Cumulative follow-up rates were more than 90% for both cohorts. The primary outcome was RA alone with two subtypes of the disease: seropositive and seronegative RA.

##### *RESULTS:*

During 3 678 104 person-years, 1007 RA cases were confirmed. In the multivariable-adjusted model, long-term adherence to healthy eating patterns was marginally associated with reduced RA risk. To assess potential effect modification by age at diagnosis, we stratified by age. Among women aged  $\leq 55$  years, better quality diet was associated with lower RA risk (HR<sub>Q4 vs Q1</sub>: 0.67; 95% CI 0.51 to 0.88; p trend: 0.002), but no significant association was found for women aged  $> 55$  years (p interaction: 0.005). When stratifying by serostatus, the inverse association among those aged  $\leq 55$  years was strongest for seropositive RA (HR<sub>Q4 vs Q1</sub>: 0.60; 95% CI 0.42 to 0.86; p trend: 0.003).

##### *CONCLUSIONS:*

A healthier diet was associated with a reduced risk of RA occurring at 55 years of age or younger, particularly seropositive RA.

**48 A. STM****Surgery according to fascia**

Surg Endosc. 2017 Feb;31(2):945-948. doi: 10.1007/s00464-016-5014-7. Epub 2016 Jun 20.

**A technique of laparoscopic lateral pelvic lymph node dissection based on vesicohypogastric fascia and ureterohypogastric nerve fascia for advanced low rectal cancer.**

Matsumoto A<sup>1</sup>, Arita K<sup>2</sup>.

Author information

Abstract

**BACKGROUND:**

Conventional open lateral lymph node (LLN) dissection performed along the internal iliac vessels frequently results in increased bleeding and postoperative complications [1, 2]. However, laparoscopic LLN dissection is a feasible, oncologically acceptable alternative [3-6]. We have developed a laparoscopic autonomic nerve-preserving technique for LLN dissection based on the vesicohypogastric fascia (VF) and ureterohypogastric nerve fascia (UNF) [7].

**METHODS:**

Surgical and oncological outcomes were compared between 12 patients undergoing laparoscopic hemi-LLN dissection and 13 patients undergoing conventional open hemi-LLN dissection. Our standardized procedure for LLN dissection is shown in the video.

**RESULTS:**

The number of harvested LLNs and the postoperative hospital stay was similar in both groups. In the open dissection (OD) and laparoscopic dissection (LD) groups, the median operation times were 373.3 and 443.1 min, respectively. However, the median (range) blood loss was 38.8 (20-75) ml in the LD group versus 836.9 (365-2060) ml in the OD group. One LD patient had anastomotic leakage and one had hydronephrosis. One OD patient had anastomotic leakage, four had small bowel obstruction, three had wound infection and one had lymphatic leakage. Postoperative recovery was faster in the LD group: The median time to resumption of oral intake was 3.3 (2-6) days, versus 8.7 (3-34) days in the OD group. There was one case of grade 2 urinary retention in the LD group, but there were five cases of grade 2 or 3 urinary retention in the OD group. Surgical curability was R0 in all LD patients, whereas 7 of 13 patients were R0 in the OD group. After a mean follow-up of 24.4 (16.2-45.3) months, all LD patients were alive without recurrence. After 31.5 (6-63) months, three OD patients had local recurrence and two had distant metastasis.

**CONCLUSIONS:**

Laparoscopic LLN dissection based on VF and UNF is feasible, with acceptable surgical and oncological outcomes

**MFR and TLF****Mechanical deformation of posterior thoracolumbar fascia after myofascial release in healthy men: A study of dynamic ultrasound imaging**

Ka-Kit Wong Huei-Ming Chai Yu-Jen Chen Chung-Li Wang Yio-Wha Shau Shwu-Fen Wang

DOI: <http://dx.doi.org/10.1016/j.math.2016.10.011>

Feb 17

Vol 27 pgs 124 - 130

**Background**

Myofascial release (MR) on the posterior thoracolumbar fascia (PLF) is one of the manual techniques aim to restore the normal length and tension of restricted fasciae and muscles.

**Objectives**

The present study aimed to quantify the immediate effects of MR on fascial properties of the PLF in healthy men.

**Design**

Cross-sectional study.

**Method**

Participants (N = 10, aged  $22.8 \pm 2.0$  years) performed a press-down to maximal voluntary contraction (MVC) in the prone position. Deformation of the PLF was measured using an ultrasonographic apparatus. Force output was simultaneously measured. The stiffness index and hysteresis index were then represented by the slope of the loading curve, and the percentage of the area within the loading–unloading curve. One-way ANCOVA was used to compare differences in the stiffness index or hysteresis index of the PLF before and after MR. Two-way repeated ANOVA was used to compare deformation of the PLF or force output after MR.

**Results**

The primary findings included a decrease (before:  $24.1 \pm 8.3$  vs. after:  $18.9 \pm 5.3$  N/mm; mean difference,  $-5.2 \pm 4.9$  N/mm,  $p = 0.002 < 0.05$ ) in the stiffness index of the PLF and a greater difference in deformation of the PLF between 50% and 100% MVC (before: Def50% =  $6.5 \pm 1.8$  mm and Def100% =  $9.8 \pm 1.9$  mm vs. after: Def50% =  $6.4 \pm 2.5$  mm and Def100% =  $10.2 \pm 2.4$  mm;  $p = 0.037 < 0.05$ , power = 58.5%).

**Conclusion**

After MR, stiffness of the PLF decreased in healthy men.

**59. PAIN****Upper limb neuropathic pain**

Neuromodulation. 2017 Feb 3. doi: 10.1111/ner.12573.

**Peripheral Nerve Stimulation of Brachial Plexus Nerve Roots and Supra-Scapular Nerve for Chronic Refractory Neuropathic Pain of the Upper Limb.**

Bouche B<sup>1</sup>, Manfiotto M<sup>2</sup>, Rigoard P<sup>3,4</sup>, Lemarie J<sup>5</sup>, Dix-Neuf V<sup>5</sup>, Lanteri-Minet M<sup>6,7,8</sup>, Fontaine D<sup>2,7</sup>.

Author information

Abstract

**OBJECTIVES:**

We report the outcome of a consecutive series of 26 patients suffering from chronic medically-refractory neuropathic pain of the upper limb (including 16 patients with complex regional pain syndrome), topographically limited, treated by brachial plexus (BP) nerve roots or supra-scapular nerve (SSN) peripheral nerve stimulation (PNS).

**MATERIALS AND METHODS:**

The technique consisted in ultrasound-guided percutaneous implantation of a cylindrical lead (Pisces-Quad, Medtronic) close to the SSN or the cervical nerve roots within the BP, depending on the pain topography. All the patients underwent a positive trial stimulation before lead connection to a subcutaneous stimulator. Chronic bipolar stimulation mean parameters were: frequency 55.5 Hertz, voltage 1.17 Volts. The voltage was set below the threshold inducing muscle contractions or paresthesias.

**RESULTS:**

Two patients were lost immediately after surgery. At last follow-up (mean 27.5 months), the 20 patients still using the stimulation experienced a mean pain relief of 67.1%. Seventeen patients were improved  $\geq 50\%$ , including 12 improved  $\geq 70\%$ . In 11 patients with a follow-up  $> 2$  years, the mean pain relief was 68%. At last follow-up, respectively, six out of the nine (67%) patients treated by SSN stimulation and 10 out of 17 patients (59%) treated by BP stimulation were improved  $\geq 50\%$ . At last follow-up, 12 out of 20 patients still using the stimulation were very satisfied, six were satisfied, and two were poorly satisfied. Complications were: stimulation intolerance due to shock-like sensations (three cases), superficial infection (1), lead fractures (2), and migration (1).

**CONCLUSION:**

In this pilot study, SSN or BP roots PNS provided a relatively safe, durable and effective option to control upper limb neuropathic pain.

**Parenting and pain response**

J Pain. 2017 Feb 1. pii: S1526-5900(17)30030-5. doi: 10.1016/j.jpain.2017.01.007.

**The impact of parental modeling on child pain responses: The role of parent and child sex.**

Boerner KE<sup>1</sup>, Chambers CT<sup>2</sup>, McGrath PJ<sup>3</sup>, LoLordo V<sup>4</sup>, Uher R<sup>5</sup>.

Author information

**Abstract**

Social modeling is a process by which pain behaviours are learned, and research has found parents act as models for their children's behaviour. Despite social learning theory predicting that same-sex models have greater impact, no experimental investigation to date has examined the role of sex of the model or observer in social learning of pediatric pain. The present study recruited 168 parent-child dyads (equal father-son, father-daughter, mother-son, and mother-daughter dyads) where children were generally healthy 6- to 8-year-olds. Unbeknownst to their child, parents were randomly assigned to exaggerate their expression of pain, minimize their expression of pain, or act naturally during the cold pressor task (CPT). Parents completed the CPT while their child observed, then children completed the CPT themselves. Children whose parents were in the Exaggerate condition reported higher anxiety than children of parents in the Minimize condition. Additionally, girls in the Exaggerate condition rated their overall pain intensity during the cold pressor significantly higher than boys in the same condition. No child sex differences were observed in pain intensity for the Control or Minimize conditions. Parent expressions of pain impacts children's anxiety, and sex-specific effects of parental exaggerated pain expression on children's own subsequent pain experience are present.

***PERSPECTIVE:***

This article describes how parental expressions of pain influence children's pain and anxiety, specifically examining the relevance of parent and child sex in this process. These findings have implications for children of parents with chronic pain, or situations where parents experience pain in the presence of their child (e.g., vaccinations).

## 61. FIBROMYALGIA

### Short term ex

BMC Musculoskelet Disord. 2017 Jan 25;18(1):37. doi: 10.1186/s12891-017-1402-y.

### Acute effects of physical exercise on the serum insulin-like growth factor system in women with fibromyalgia.

Mannerkorpi K<sup>1,2,3</sup>, Landin-Wilhelmsen K<sup>4</sup>, Larsson A<sup>5</sup>, Cider Å<sup>5</sup>, Arodell O<sup>6</sup>, Bjersing JL<sup>6,7</sup>.  
Author information

#### Abstract

##### **BACKGROUND:**

Increased Serum insulin-like growth factor-1 (S-IGF-1) has been noted after physical activity in healthy subjects, while the acute release of S-IGF-1 in relation to exercise has not previously been studied in women with fibromyalgia (FM). S-IGF-1 and its binding protein (S-IGFBP-3) are mediated by growth hormone and have anabolic effects on the skeletal muscle. Aim of the study was to investigate acute release of IGF-1 after aerobic exercise in women with FM.

##### **METHODS:**

The acute effect of physical exercise on S-IGF-1 and S-IGFBP-3 were studied in 22 women with FM and in 27 healthy controls during moderate and high-intensity cycling (i.e. ratings 12-13 and 15-17, on Borg's perceived exertion scale (RPE), respectively). Self-reported pain and fatigue were recorded. Differences within and between the two groups were analyzed.

##### **RESULTS:**

After 15 min of bicycling, S-IGF-1 and S-IGFBP-3 increased both within the group with FM and in the healthy controls ( $p < 0.01$ ). The increases in S-IGF-1 did not significantly differ between the women with FM and the healthy control group (mean increase  $11 \pm 10$  vs.  $11 \pm 15$  ng/ml and  $13 \pm 10$  vs.  $19 \pm 22$  ng/ml) when bicycling at moderate or high intensity, respectively. Self-reported pain and fatigue during exercise, irrespective of intensity, were higher in women with FM compared with healthy controls ( $p < 0.001$ ).

##### **CONCLUSIONS:**

Fifteen minutes bicycling at moderate intensity was sufficient to acutely mobilise S-IGF-1 in women with FM similarly to healthy controls in spite of higher score of fatigue and pain in women with FM. Hence, patients with FM were able to activate their skeletal muscle metabolism during a short, moderate bout of exercise and were not resistant to training effects. The result is important for encouraging clinical rehabilitation of patients with FM who commonly exercise at a moderate, rather than at a high-intensity level.

## 62 A. NUTRITION/VITAMINS

### Vit D and CA for bones

Osteoporos Int. 2017 Feb;28(2):447-462. doi: 10.1007/s00198-016-3773-6. Epub 2016 Oct 20.

#### **The role of calcium supplementation in healthy musculoskeletal ageing : An expert consensus meeting of the European Society for Clinical and Economic Aspects of Osteoporosis, Osteoarthritis and Musculoskeletal Diseases (ESCEO) and the International Foundation for Osteoporosis (IOF).**

Harvey NC<sup>1,2</sup>, Biver E<sup>3</sup>, Kaufman JM<sup>4</sup>, Bauer J<sup>5</sup>, Branco J<sup>6</sup>, Brandi ML<sup>7</sup>, Bruyère O<sup>8</sup>, Coxam V<sup>9,10</sup>, Cruz-Jentoft A<sup>11</sup>, Czerwinski E<sup>12</sup>, Dimai H<sup>13</sup>, Fardellone P<sup>14</sup>, Landi F<sup>15</sup>, Reginster JY<sup>8</sup>, Dawson-Hughes B<sup>16</sup>, Kanis JA<sup>17,18</sup>, Rizzoli R<sup>3</sup>, Cooper C<sup>19,20,21</sup>.

Author information

#### Abstract

The place of calcium supplementation, with or without concomitant vitamin D supplementation, has been much debated in terms of both efficacy and safety. There have been numerous trials and meta-analyses of supplementation for fracture reduction, and associations with risk of myocardial infarction have been suggested in recent years. In this report, the product of an expert consensus meeting of the European Society for Clinical and Economic Aspects of Osteoporosis, Osteoarthritis and Musculoskeletal Diseases (ESCEO) and the International Foundation for Osteoporosis (IOF), we review the evidence for the value of calcium supplementation, with or without vitamin D supplementation, for healthy musculoskeletal ageing. We conclude that (1) calcium and vitamin D supplementation leads to a modest reduction in fracture risk, although population-level intervention has not been shown to be an effective public health strategy; (2) supplementation with calcium alone for fracture reduction is not supported by the literature; (3) side effects of calcium supplementation include renal stones and gastrointestinal symptoms; (4) vitamin D supplementation, rather than calcium supplementation, may reduce falls risk; and (5) assertions of increased cardiovascular risk consequent to calcium supplementation are not convincingly supported by current evidence. In conclusion, we recommend, on the basis of the current evidence, that calcium supplementation, with concomitant vitamin D supplementation, is supported for patients at high risk of calcium and vitamin D insufficiency, and in those who are receiving treatment for osteoporosis.

**Vit D and memory**

Exp Gerontol. 2017 Feb 3. pii: S0531-5565(16)30323-0. doi: 10.1016/j.exger.2017.01.019.

**Does high dose vitamin D supplementation enhance cognition?: A randomized trial in healthy adults.**

Pettersen JA<sup>1</sup>.

Author information

Abstract

**BACKGROUND:**

Insufficiency of 25-hydroxyvitamin D [25(OH)D] has been associated with dementia and cognitive decline. However, the effects of vitamin D supplementation on cognition are unclear. It was hypothesized that high dose vitamin D3 supplementation would result in enhanced cognitive functioning, particularly among adults whose 25(OH)D levels were insufficient (<75nmol/L) at baseline.

**METHODS:**

Healthy adults (n=82) from northern British Columbia, Canada (54° north latitude) with baseline 25(OH)D levels  $\leq$ 100nmol/L were randomized and blinded to High Dose (4000IU/d) versus Low Dose (400IU/d) vitamin D3 (cholecalciferol) for 18weeks. Baseline and follow-up serum 25(OH)D and cognitive performance were assessed and the latter consisted of: Symbol Digit Modalities Test, verbal (phonemic) fluency, digit span, and the CANTAB® computerized battery.

**RESULTS:**

There were no significant baseline differences between Low (n=40) and High (n=42) dose groups. Serum 25(OH)D increased significantly more in the High Dose (from 67.2 $\pm$ 20 to 130.6 $\pm$ 26nmol/L) than the Low Dose group (60.5 $\pm$ 22 to 85.9 $\pm$ 16nmol/L), p=0.0001. Performance improved in the High Dose group on nonverbal (visual) memory, as assessed by the Pattern Recognition Memory task (PRM), from 84.1 $\pm$ 14.9 to 88.3 $\pm$ 13.2, p=0.043 (d=0.3) and Paired Associates Learning Task, (PAL) number of stages completed, from 4.86 $\pm$ 0.35 to 4.95 $\pm$ 0.22, p=0.044 (d=0.5), but not in the Low Dose Group. Mixed effects modeling controlling for age, education, sex and baseline performance revealed that the degree of improvement was comparatively greater in the High Dose Group for these tasks, approaching significance: PRM, p=0.11 (d=0.4), PAL, p=0.058 (d=0.4). Among those who had insufficient 25(OH)D (<75nmol/L) at baseline, the High Dose group (n=23) improved significantly (p=0.005, d=0.7) and to a comparatively greater degree on the PRM (p=0.025, d=0.6).

**CONCLUSIONS:**

Nonverbal (visual) memory seems to benefit from higher doses of vitamin D supplementation, particularly among those who are insufficient (<75nmol/L) at baseline, while verbal memory and other cognitive domains do not. These findings are consistent with recent cross-sectional and longitudinal studies, which have demonstrated significant positive associations between 25(OH)D levels and nonverbal, but not verbal, memory. While our findings require confirmation, they suggest that higher 25(OH)D is particularly important for higher level cognitive functioning, specifically nonverbal (visual) memory, which also utilizes executive functioning processes.

**Fish intake decreases dementia**

Curr Opin Clin Nutr Metab Care. 2017 Mar;20(2):104-109. doi: 10.1097/MCO.0000000000000350.

**Fish consumption and omega-3 fatty acid supplementation for prevention or treatment of cognitive decline, dementia or Alzheimer's disease in older adults - any news?**

Cederholm T<sup>1</sup>.  
Author information

## Abstract

*PURPOSE OF REVIEW:*

Twenty years of research indicates that fish and n-3 fatty acids (FAs), for example docosahexaenoic acid, may attenuate cognitive decline including Alzheimer's disease in older people. This review concerns reports during 2015-2016 in humans.

*RECENT FINDINGS:*

One prospective cohort study showed that seafood consumption was related to less neuritic plaques and neurofibrillary tangles in brain autopsies from elderly care residents. In a large 5-year intervention no effects on cognition could be shown either in n-3 FA supplemented or in control patients. Two meta-analyses in community-dwelling patients support preservation of cognition with higher fish intake. Older adults with memory complaints may improve cortical blood flow during memory challenges by n-3 FA supplementation. Recalculations from a report in Alzheimer's disease patients indicated a dose-response pattern between increments of serum n-3 FAs and cognitive improvement. Still, a Cochrane review (using three randomized control trials) concluded that n-3 FAs cannot provide any 6-month benefit in patients with mild/moderate Alzheimer's disease.

*SUMMARY:*

The accumulated knowledge indicates that healthy populations may have preventive benefits from fish and docosahexaenoic acid intake, like older adults with memory complaints/mild cognitive impairment, and maybe subgroups of patients with mild/moderate Alzheimer's disease may also show such benefits. Still, more studies are needed.

**Coffee reduces risk of bladder CA**

Eur J Cancer Prev. 2017 Mar;26(2):125-130. doi: 10.1097/CEJ.0000000000000226.

**The association between coffee consumption and bladder cancer incidence in a pooled analysis of the Miyagi Cohort Study and Ohsaki Cohort Study.**

Sugiyama K<sup>1</sup>, Sugawara Y, Tomata Y, Nishino Y, Fukao A, Tsuji I.

Author information

**Abstract**

Recent epidemiological studies of the association between coffee consumption and the risk of bladder cancer have yielded conflicting results. The aim of the present study was to examine the association between coffee consumption and the incidence of bladder cancer on the basis of pooled data from two cohort studies carried out in Miyagi Prefecture, northeastern Japan. We delivered self-administered questionnaires inquiring about the frequency of coffee consumption and other lifestyle factors in 1990 for the Miyagi Cohort Study and in 1994 for the Ohsaki Cohort Study. We followed 73 346 individuals from both cohorts and identified 274 cases of bladder cancer during 17.6 years for the Miyagi Cohort Study and 13.3 years for the Ohsaki Cohort Study. The multivariate-adjusted hazard ratios (95% confidence intervals) of bladder cancer incidence for the individuals who drank coffee occasionally, 1-2 cups/day, and 3 or more cups/day compared with never drinkers were 1.22 (0.90-1.66), 0.88 (0.61-1.26), and 0.56 (0.32-0.99), respectively (Ptrend=0.04). The inverse association remained even after stratification for smoking status. These data indicate that there is a significant inverse association between coffee consumption and the risk of bladder cancer

**Vit D and CA**

Osteoporos Int. 2017 Feb;28(2):447-462. doi: 10.1007/s00198-016-3773-6. Epub 2016 Oct 20.

**The role of calcium supplementation in healthy musculoskeletal ageing : An expert consensus meeting of the European Society for Clinical and Economic Aspects of Osteoporosis, Osteoarthritis and Musculoskeletal Diseases (ESCEO) and the International Foundation for Osteoporosis (IOF).**

Harvey NC<sup>1,2</sup>, Biver E<sup>3</sup>, Kaufman JM<sup>4</sup>, Bauer J<sup>5</sup>, Branco J<sup>6</sup>, Brandi ML<sup>7</sup>, Bruyère O<sup>8</sup>, Coxam V<sup>9,10</sup>, Cruz-Jentoft A<sup>11</sup>, Czerwinski E<sup>12</sup>, Dimai H<sup>13</sup>, Fardellone P<sup>14</sup>, Landi F<sup>15</sup>, Reginster JY<sup>8</sup>, Dawson-Hughes B<sup>16</sup>, Kanis JA<sup>17,18</sup>, Rizzoli R<sup>3</sup>, Cooper C<sup>19,20,21</sup>.

Author information

**Abstract**

The place of calcium supplementation, with or without concomitant vitamin D supplementation, has been much debated in terms of both efficacy and safety. There have been numerous trials and meta-analyses of supplementation for fracture reduction, and associations with risk of myocardial infarction have been suggested in recent years. In this report, the product of an expert consensus meeting of the European Society for Clinical and Economic Aspects of Osteoporosis, Osteoarthritis and Musculoskeletal Diseases (ESCEO) and the International Foundation for Osteoporosis (IOF), we review the evidence for the value of calcium supplementation, with or without vitamin D supplementation, for healthy musculoskeletal ageing. We conclude that (1) calcium and vitamin D supplementation leads to a modest reduction in fracture risk, although population-level intervention has not been shown to be an effective public health strategy; (2) supplementation with calcium alone for fracture reduction is not supported by the literature; (3) side effects of calcium supplementation include renal stones and gastrointestinal symptoms; (4) vitamin D supplementation, rather than calcium supplementation, may reduce falls risk; and (5) assertions of increased cardiovascular risk consequent to calcium supplementation are not convincingly supported by current evidence. In conclusion, we recommend, on the basis of the current evidence, that calcium supplementation, with concomitant vitamin D supplementation, is supported for patients at high risk of calcium and vitamin D insufficiency, and in those who are receiving treatment for osteoporosis.

**KEYWORDS:**

Calcium supplementation; Fracture reduction; Myocardial infarction; Vitamin D supplementation

### 63. PHARMACOLOGY

#### Opioid use not reduced by pain education

*Pain*. 2017 Feb;158(2):278-288. doi: 10.1097/j.pain.0000000000000755.

Does brief chronic pain management education change opioid prescribing rates? A pragmatic trial in Australian early-career general practitioners.

Holliday SM<sup>1</sup>, Hayes C, Dunlop AJ, Morgan S, Tapley A, Henderson KM, van Driel ML, Holliday EG, Ball JI, Davey A, Spike NA, McArthur LA, Magin PJ.

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#### Abstract

We aimed to evaluate the effect of pain education on opioid prescribing by early-career general practitioners. A brief training workshop was delivered to general practice registrars of a single regional training provider. The workshop significantly reduced "hypothetical" opioid prescribing (in response to paper-based vignettes) in an earlier evaluation. The effect of the training on "actual" prescribing was evaluated using a nonequivalent control group design nested within the Registrar Clinical Encounters in Training (ReCEnT) cohort study: 4 other regional training providers were controls. In ReCEnT, registrars record detailed data (including prescribing) during 60 consecutive consultations, on 3 occasions. Analysis was at the level of individual problem managed, with the primary outcome factor being prescription of an opioid analgesic and the secondary outcome being opioid initiation. Between 2010 and 2015, 168,528 problems were recorded by 849 registrars. Of these, 71% were recorded by registrars in the nontraining group. Eighty-two per cent were before training. Opioid analgesics were prescribed in 4382 (2.5%, 95% confidence interval [CI]: 2.40-2.63) problems, with 1665 of these (0.97%, 95% CI: 0.91-1.04) representing a new prescription. There was no relationship between the training and total prescribing after training (interaction odds ratio: 1.01; 95% CI: 0.75-1.35; P value 0.96). There was some evidence of a reduction in initial opioid prescriptions in the training group (interaction odds ratio: 0.74; 95% CI: 0.48-1.16; P value 0.19).

This brief training package failed to increase overall opioid cessation. The inconsistency of these actual prescribing results with "hypothetical" prescribing behavior suggests that reducing opioid prescribing in chronic noncancer pain requires more than changing knowledge and attitudes.