

2. LBP

RIII management helps

Learned control over spinal nociception in patients with chronic back pain

Authors

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DOI: 10.1002/ejp.1055 [View/save citation](#)

Background

Descending pain inhibition suppresses spinal nociception, reducing nociceptive input to the brain. It is modulated by cognitive and emotional processes. In subjects with chronic pain, it is impaired, possibly contributing to pain persistence. A previously developed feedback method trains subjects to activate their descending inhibition. Participants are trained to use cognitive-emotional strategies to reduce their spinal nociception, as quantified by the nociceptive flexor reflex (RIII reflex), under visual feedback about their RIII reflex size. The aim of the present study was to test whether also subjects with chronic back pain can achieve a modulation of their descending pain inhibition under RIII feedback.

Methods

In total, 33 subjects with chronic back pain received either true ($n = 18$) or sham RIII feedback ($n = 15$), 15 healthy control subjects received true RIII feedback.

Results

All three groups achieved significant RIII suppression, largest in controls (to $76 \pm 26\%$ of baseline), intermediate in chronic back pain subjects receiving true feedback (to $82 \pm 13\%$) and smallest in chronic back pain subjects receiving sham feedback (to $89 \pm 14\%$, all $p < 0.05$). However, only chronic pain subjects receiving true feedback significantly improved their descending inhibition over the feedback training, quantified by the conditioned pain modulation effect (test pain reduction of baseline before training: to $98 \pm 26\%$, after: to $80 \pm 21\%$, $p < 0.01$).

Conclusion

Our results show that subjects with chronic back pain can achieve a reduction of their spinal nociception and improve their descending pain inhibition under RIII feedback training.

Significance

Subjects with chronic back pain can learn to control their spinal nociception, quantified by the RIII reflex, when they receive feedback about the RIII reflex.

Management comparison

Clin Spine Surg. 2017 Jun;30(5):204-225. doi: 10.1097/BSD.0000000000000410.

Comparative Effectiveness of Treatments for Chronic Low Back Pain: A Multiple Treatment Comparison Analysis.

Rihn JA¹, Radcliff K, Norvell DC, Eastlack R, Phillips FM, Berland D, Sherry N, Freedman M, Vaccaro AR.

Author information**Abstract****STUDY DESIGN:**

A systematic review and network meta-analysis.

OBJECTIVE:

To determine current treatment options of chronic low back pain (LBP) as defined by randomized controlled trials (RCTs) and to compare effectiveness of those treatments using a mixed-treatment comparison (MTC).

SUMMARY OF BACKGROUND DATA:

It is important to provide an evidence-based assessment of the treatment options that exist for LBP.

METHODS:

A systematic search of RCTs was conducted in MEDLINE and the Cochrane Collaboration Library from 1990 to 2014. From the selected studies, we extracted preoperative and postoperative ODI and VAS back pain scores, additional surgeries, and complications. Standard and network meta-analytic techniques were used.

RESULTS:

Twelve RCTs were included in the analysis: 5 total disk replacement (TDR) versus fusion; 1 TDR versus exercise and cognitive behavioral therapy (CBT); 5 fusion versus exercise and CBT; and 1 fusion versus physical therapy (PT). On the basis of MTC, with respect to ODI change scores, the pooled mean difference favoring fusion over exercise and CBT was 2.0 points (95% CI, -1.2 to 4.8). The pooled mean difference favoring TDR over exercise and CBT was 6.4 points (95% CI, 3.2-9.3). The pooled mean difference favoring fusion over PT was 8.8 points (95% CI, 4.1-13.6). The pooled mean differences favoring TDR over fusion was 4.4 points (95% CI, 2.37-6.63). For PT versus structured exercise with CBT, the pooled mean difference favoring exercise with CBT over PT was 6.8 points (95% CI, 1.5-12.8). For TDR versus PT, the pooled mean difference favoring TDR over PT was 13.2 points (95% CI, 8.0-18.4). Additional surgery rates were similar between treatment options.

CONCLUSIONS:

All 4 treatments provided some benefit to patients with chronic LBP. According to the MTC analysis, TDR may be the most effective treatment and PT the least effective treatment for chronic LBP. This review is based on a limited number of RCT studies and does not support any 1 treatment modality for all patients.

5. SURGERY

Post fusion incidence of persistent pain

J Pain Res. 2017 May 4;10:1019-1025. doi: 10.2147/JPR.S132862. eCollection 2017.

Incidence and risk factors of persistent low back pain following posterior decompression and instrumented fusion for lumbar disk herniation.

Wang H¹, Wang T¹, Wang Q², Ding W¹.
Author information

Abstract

INTRODUCTION:

The aim of this study was to explore the incidence and risk factors of persistent low back pain (PLBP) following posterior decompression and instrumented fusion for lumbar disk herniation and to provide references in decision-making and surgical planning for both spinal surgeons and surgically treated patients.

PATIENTS AND METHODS:

By retrieving the medical records from January 2013 to December 2016, 221 patients were retrospectively reviewed. Patients were classified as having PLBP if numeric rating scale (NRS) scores were >50 at all postoperative follow-up time points (3 months, 6 months, and 12 months). According to the occurrence of PLBP, patients were divided into two groups: PLBP group and non (N)-PLBP group. To investigate risk values for PLBP, the following three categorized factors were analyzed statistically. Patient characteristics: age, gender, body mass index (BMI), preoperative low back pain, comorbidity, smoking, and drinking. Surgical variables: surgical strategy, surgical segment, the number of fusion levels, surgery time, blood loss, and size of incision. Radiographic parameters: preoperative lumbar lordosis (LL), correction of LL at immediate postoperation, Modic changes, and preoperative paraspinal muscle degeneration.

RESULTS:

PLBP was detected in 16 patients and were enrolled into the PLBP group. There was no difference between the two groups in age, gender, BMI, comorbidity, smoking, and drinking. The preoperative low back pain was more severe in the PLBP group than that in the N-PLBP group. There was no difference in surgery time, blood loss, surgical strategy, number of fusion levels, and the size of incision. Surgery segment at L₅-S₁ was more prevalent in the PLBP group than that in the N-PLBP group, and there was no difference in preoperative LL, correction of LL, preoperative lumbar mobility, and Modic changes. The fatty infiltration rate (FIR) was larger in the PLBP group than that in the N-PLBP group. Multivariate logistic regression model revealed that preoperative low back pain (NRS > 35), surgery segment at L₅-S₁, and FIR > 15% were independently associated with PLBP.

CONCLUSION:

The incidence of PLBP following posterior decompression and instrumented fusion for lumbar disk herniation is 7.2%, and the risk factors include preoperative low back pain, surgery segment at L₅-S₁, and preoperative paraspinal muscle degeneration.

7. PELVIC ORGANS/WOMAN'S HEALTH

Meat intake during pregnancy

Meat consumption during pregnancy and substance misuse among adolescent offspring: An evaluation of cobalamin (vitamin B₁₂) deficits utilizing Mendelian randomization

Biological Psychiatry

Hibbeln J, et al.

The focus of this study was to explore the relationship between meat intake amid pregnancy and substance misuse among adolescent offspring. Lower prenatal meat intake was related to increased risks of adolescent substance misuse. TCN2 variants specifically implicated cobalamin deficiency regardless of social confounding. By selectively identifying a causal contribution of vitamin B₁₂ insufficiencies, greater meat intake need not be advised to decrease risk.

Methods

- In this study, dietary patterns were derived from pregnant women and their 13-year-old offspring.
- This study was conducted in the Avon Longitudinal Study of Parents and Children (ALSPAC).
- Multivariable logistic regression models including potential confounders assessed adverse alcohol, cannabis and tobacco utilization of the children at age 15 years.
- Potential causality was assessed utilizing maternal allelic variants affecting biological activity of cobalamin (vitamin B₁₂).

Results

- Lower maternal meat intake was related to greater problematic substance use among 15 year old offspring in dose response patterns.
- Comparing never to everyday intake after adjustment, risks were greater for all; alcohol, odds ratio OR=1.75, 95% CI = [1.23, 2.56], p < 0.001, cannabis OR=2.04, 95% CI = [1.52, 2.70], p < 0.001 and tobacco use OR=2.70, 95% CI = [1.89, 4.00], p < 0.001.
- Lower meat intake disproportionately increased the risks of offspring substance misuse among mothers with optimally functional (homozygous) variants (rs1801198) of the gene TCN2 which encodes the vitamin B₁₂ transport protein transcobalamin indicating a causal role for cobalamin deficits.
- Risks attributable to cobalamin deficits amid pregnancy include adverse adolescent alcohol, cannabis, and tobacco use (14 %, 37% and 23% respectively).

Anxiety and depression with endometriosis

Anxiety and depression in patients with endometriosis: Impact and management challenges **International Journal of Women's Health**

Lagana AS, et al.

Abstract: Endometriosis is one of the most common gynecological diseases and affects ~10% of women in reproductive age. The most common clinical signs of endometriosis are menstrual irregularities, chronic pelvic pain (CPP), dysmenorrhea, dyspareunia and infertility. Symptoms of endometriosis often affect psychological and social functioning of patients. For this reason, endometriosis is considered as a disabling condition that may significantly compromise social relationships, sexuality and mental health. Considering this point, the aim of this narrative review is to elucidate the impact of anxiety and depression in the management of women with endometriosis. Psychological factors have an important role in determining the severity of symptoms, and women who suffer from endometriosis report high levels of anxiety, depression and other psychiatric disorders. In addition, endometriosis is one of the most important causes of CPP; women with endometriosis suffer from a wide range of pelvic pain such as dysmenorrhea, dyspareunia, nonmenstrual (chronic) pelvic pain, pain at ovulation, dyschezia and dysuria. Several studies have underlined the influence of CPP on quality of life and psychological well-being of women with endometriosis. Data suggest that the experience of pelvic pain is an important component of endometriosis and may significantly affect emotive functioning of affected women. It has been demonstrated that high levels of anxiety and depression can amplify the severity of pain. Further studies are needed to better understand the relationship between psychological factors and perception of pain. Treatment of endometriosis may be hormonal or surgical. Surgery is the primary treatment for more severe forms of endometriosis. There are few data in the literature about the influence of psychological factors and psychiatric comorbidities on the effectiveness of treatments. It is important to evaluate the presence of previous psychiatric diseases in order to select the most appropriate treatment for the patient.

Meat intake during pregnancy reduces risk of child's future substance abuse

Meat consumption during pregnancy and substance misuse among adolescent offspring: An evaluation of cobalamin (vitamin B₁₂) deficits utilizing Mendelian randomization

Biological Psychiatry

Hibbeln J, et al.

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Methods

- In this study, dietary patterns were derived from pregnant women and their 13-year-old offspring.
- This study was conducted in the Avon Longitudinal Study of Parents and Children (ALSPAC).
- Multivariable logistic regression models including potential confounders assessed adverse alcohol, cannabis and tobacco utilization of the children at age 15 years.
- Potential causality was assessed utilizing maternal allelic variants affecting biological activity of cobalamin (vitamin B₁₂).

Results

- Lower maternal meat intake was related to greater problematic substance use among 15 year old offspring in dose response patterns.
- Comparing never to everyday intake after adjustment, risks were greater for all; alcohol, odds ratio OR=1.75, 95% CI = [1.23, 2.56], $p < 0.001$, cannabis OR=2.04, 95% CI = [1.52, 2.70], $p < 0.001$ and tobacco use OR=2.70, 95% CI = [1.89, 4.00], $p < 0.001$.
- Lower meat intake disproportionately increased the risks of offspring substance misuse among mothers with optimally functional (homozygous) variants (rs1801198) of the gene TCN2 which encodes the vitamin B₁₂ transport protein transcobalamin indicating a causal role for cobalamin deficits.
- Risks attributable to cobalamin deficits amid pregnancy include adverse adolescent alcohol, cannabis, and tobacco use (14 %, 37% and 23% respectively).

Breastfeeding decreases risk of endometrial CA

Obstet Gynecol. 2017 Jun;129(6):1059-1067. doi: 10.1097/AOG.0000000000002057.

Breastfeeding and Endometrial Cancer Risk: An Analysis From the Epidemiology of Endometrial Cancer Consortium.

Jordan SJ¹, Na R, Johnatty SE, Wise LA, Adami HO, Brinton LA, Chen C, Cook LS, Dal Maso L, De Vivo I, Freudenheim JL, Friedenreich CM, La Vecchia C, McCann SE, Moysich KB, Lu L, Olson SH, Palmer JR, Petruzella S, Pike MC, Rebbeck TR, Ricceri F, Risch HA, Sacerdote C, Setiawan VW, Sponholtz TR, Shu XO, Spurdle AB, Weiderpass E, Wentzensen N, Yang HP, Yu H, Webb PM.

Author information

Abstract**OBJECTIVE:**

To investigate the association between breastfeeding and endometrial cancer risk using pooled data from 17 studies participating in the Epidemiology of Endometrial Cancer Consortium.

METHODS:

We conducted a meta-analysis with individual-level data from three cohort and 14 case-control studies. Study-specific odds ratios (ORs) and 95% confidence intervals (CIs) were estimated for the association between breastfeeding and risk of endometrial cancer using multivariable logistic regression and pooled using random-effects meta-analysis. We investigated between-study heterogeneity with I and Q statistics and metaregression.

RESULTS:

After excluding nulliparous women, the analyses included 8,981 women with endometrial cancer and 17,241 women in a control group. Ever breastfeeding was associated with an 11% reduction in risk of endometrial cancer (pooled OR 0.89, 95% CI 0.81-0.98). Longer average duration of breastfeeding per child was associated with lower risk of endometrial cancer, although there appeared to be some leveling of this effect beyond 6-9 months. The association with ever breastfeeding was not explained by greater parity and did not vary notably by body mass index or histologic subtype (grouped as endometrioid and mucinous compared with serous and clear cell).

CONCLUSION:

Our findings suggest that reducing endometrial cancer risk can be added to the list of maternal benefits associated with breastfeeding. Ongoing promotion, support, and facilitation of this safe and beneficial behavior might therefore contribute to the prevention of this increasingly common cancer.

Endometriosis and emotional state

Int J Womens Health. 2017 May 2;9:281-293. doi: 10.2147/IJWH.S119724. eCollection 2017.

Self-management and psychological-sexological interventions in patients with endometriosis: strategies, outcomes, and integration into clinical care.

Buggio L^{1,2}, Barbara G³, Facchin F⁴, Frattaruolo MP^{1,2}, Aimi G², Berlanda N².
Author information

Abstract

Endometriosis has a multifactorial etiology. The onset and progression of the disease are believed to be related to different pathogenic mechanisms. Among them, the environment and lifestyle may play significant roles. Diet, dietary supplements, physical exercise, osteopathy, massage, acupuncture, transcutaneous electrical nerve stimulation, and Chinese herbal medicine may represent a complementary and feasible approach in the treatment of symptoms related to the disease. In this narrative review, we aimed to examine the most updated evidence on these alternative approaches implicated in the self-management of the disease. In addition, several studies have demonstrated that endometriosis may negatively impact mental health and quality of life, suggesting that affected women may have an increased risk of developing psychological suffering as well as sexual problems due to the presence of pain. In light of these findings, we discuss the importance of integrating psychological interventions (including psychotherapy) and sexual therapy in endometriosis treatment.

8. VISCERA

Alcohol consumption and heart problems

Alcohol consumption and risk of heart failure: Meta-analysis of 13 prospective studies

Clinical Nutrition

Larsson SC, et al.

A comprehensive meta–investigation was carried out to summarize accessible prospective information on alcohol intake and heart failure (HF). The outcome of this meta–analysis observed that light alcohol drinking was related to a lower risk of HF. Former drinking was related to a higher risk of HF.

Methods

- For this research, they conducted a meta analysis of 13 prospective studies.
- In this study, they searched PubMed for relevant studies published until January 1, 2017.
- Relative risk (RR) evaluate from individual studies were pooled in a random–effects meta–analysis.

Results

- A sum of 13 prospective studies, with 13,738 HF cases and 355,804 participants, were incorporated into the meta–analysis. Light alcohol drinking (0.1–7 drinks/week) was inversely connected with risk of HF (RR, 0.86; 95% confidence interval, 0.81–0.90).
- There was no statistically important relationship between moderate (7.1–14 drinks/week), high (14.1–28 drinks/week), or heavy (>28 drinks/week) alcohol intake and HF risk.
- Former drinking was related to an increased risk of HF compared with never or occasional drinking (RR, 1.22; 95% confidence interval, 1.11–1.33).

Low FODMAP diet helps IBS

Is a low FODMAP diet beneficial for patients with inflammatory bowel disease? A meta-analysis and systematic review

Clinical Nutrition

Zhan YI, et al.

A comprehensive literature search was carried out to evaluate the current evidence in regards to the benefit of a low fermentable oligosaccharides, disaccharides, monosaccharides, and polyol (FODMAP) diet in the treatment of patients with inflammatory bowel disease (IBD). The present meta-analysis offers proof to support that a low FODMAP diet is helpful for decreasing gastrointestinal symptoms in patients with quiescent IBD. With the inherent constraints, the outcomes of this examination remain to be confirmed and updated by further high-volume, well-designed and long-term follow-up studies.

Methods

- For this study, they conducted a meta-analysis and systematic review.
- In this study, databases like PubMed, Web of Science, Medline were thoroughly looked for relevant studies through January 2017.
- The pooled odds ratio (OR) and weighted mean difference (WMD) with 95% confidence intervals (CIs) were utilized to examine the dichotomous factors (diarrhea response, abdominal pain and bloating, etc.) and the continuous factors.
- Random- and fixed-effects models were chosen according to heterogeneity.

Results

- In this study, they recognized two RCTs and four before-after studies with an aggregate of 319 patients (96% in remission).
- Except for the constipation response, there was a significant improvement in other symptoms: diarrhea response (OR: 0.24, 95% CI: 0.11–0.52, $p=0.0003$), satisfaction with gut symptoms (OR: 26.84, 95% CI: 4.6–156.54, $p<0.00001$), abdominal bloating (OR: 0.10, 95% CI: 0.06–0.16, $p<0.00001$), abdominal pain (OR: 0.24, 95% CI: 0.16–0.35, $p<0.00001$), fatigue (OR: 0.40, 95% CI: 0.24–0.66, $p=0.0003$) and nausea (OR: 0.51, 95% CI: 0.31–0.85, $p=0.009$).

Probiotics helps depression

Probiotic Reduces Depression and Alters Brain Activity in IBS

Gastroenterology Journal Scan / Research · May 26, 2017

TAKE-HOME MESSAGE

- The effect of the probiotic *Bifidobacterium longum* NCC3001 on psychiatric symptoms was evaluated in 44 individuals with IBS and mild to moderate anxiety and depression in this randomized placebo-controlled trial. Compared with the placebo group, significantly more patients in the probiotic group had reduced depression scores, but not anxiety scores, at week 6.
- The probiotic group also had increased quality-of-life scores and decreased limbic responses to negative stimuli on brain fMRI.

BACKGROUND & AIMS Probiotics can reduce symptoms of irritable bowel syndrome (IBS), but little is known about their effects on psychiatric comorbidities. We performed a prospective study to evaluate the effects of *Bifidobacterium longum* NCC3001 (BL) on anxiety and depression in patients with IBS.

METHODS We performed a randomized, double-blind, placebo-controlled study of 44 adults with IBS and diarrhea or a mixed-stool pattern (based on Rome III criteria) and mild to moderate anxiety and/or depression (based on the Hospital Anxiety and Depression scale) at McMaster University in Canada, from March 2011 to May 2014. At the screening visit, clinical history and symptoms were assessed and blood samples were collected. Patients were then randomly assigned to groups and given daily BL (n=22) or placebo (n=22) for 6 weeks. At week 0, 6 and 10, we determined patients' levels of anxiety and depression, IBS symptoms, quality of life, and somatization using validated questionnaires. At week 0 and 6, stool, urine and blood samples were collected, and functional magnetic resonance imaging (fMRI) test was performed. We assessed brain activation patterns, fecal microbiota, urine metabolome profiles, serum markers of inflammation, neurotransmitters and neurotrophin levels.

RESULTS At week 6, 14/22 patients in the BL group had reduction in depression scores of 2 points or more on the Hospital Anxiety and Depression scale, vs 7/22 patients in the placebo group (P=.04). BL had no significant effect on anxiety or IBS symptoms. Patients in the BL group had a mean increase in quality of life score compared with the placebo group. The fMRI analysis showed that BL reduced responses to negative emotional stimuli in multiple brain areas, including amygdala and fronto-limbic regions, compared with placebo. The groups had similar fecal microbiota profiles, serum markers of inflammation, and levels of neurotrophins and neurotransmitters, but the BL group had reduced urine levels of methylamines and aromatic amino acids metabolites. At week 10, depression scores were reduced in patients given BL vs placebo.

CONCLUSION In a placebo-controlled trial, we found that the probiotic BL reduces depression but not anxiety scores and increases quality of life in patients with IBS. These improvements were associated with changes in brain activation patterns that indicate that this probiotic reduces limbic reactivity.

Gluten**Tests for serum transglutaminase and endomysial antibodies do not detect most patients with celiac disease and persistent villous atrophy on gluten-free diets: A meta-analysis**

Gastroenterology

Silvester JA, et al.

This meta-analysis intended to evaluate the sensitivity and specificity of tissue transglutaminase (tTG) IgA and endomysial antibodies (EMA) IgA assays in identifying patients with celiac disease who have persistent villous atrophy despite a gluten-free diet (GFD). The researchers found that in the detection of persistent villous atrophy, tests for serum tTG IgA and EMA IgA levels had low sensitivity (below 50%). In children and adults with celiac disease who are following a GFD, they need more-accurate non-invasive markers of mucosal damage.

Methods

- Through November 2016, the researchers searched PUBMED, EMBASE, BIOSIS, SCOPUS, clinicaltrials.gov, Science Citation Index, and Cochrane Library databases.
- They study inclusion criteria of subjects with the biopsy-confirmed celiac disease, follow-up biopsies and measurement of serum antibodies on a GFD, a biopsy performed on subjects regardless of symptoms or antibody test results.
- Subjects with refractory celiac disease, undergoing gluten challenge or consuming a prescribed oats-containing GFD were excluded.
- Based on manufacturer cut-off values, tests were considered to have positive or negative findings.
- They defined villous atrophy as a Marsh 3 lesion or villous height: crypt depth ratio below 3.0.
- Forest plots were constructed to determine the sensitivity and specificity of detection for individual studies.
- They used a bivariate random effects model to jointly model sensitivity and specificity for the meta-analysis.

Results

- The researchers identified 5408 unique citations.
- They reviewed 442 articles in detail following a review of abstracts.
- In this meta-analysis, only 26 studies (6 of tTG assays, 15 of EMA assays, and 5 of tTG and EMA assays) met the inclusion criteria.
- The inability to cross-tabulate histologic and serologic findings was the most common reason studies were excluded from this analysis.
- As per the outcomes, the serum assays identified patients with persistent villous atrophy with high levels of specificity: 0.83 for the tTG IgA assay (95% CI, 0.79-0.87) and 0.91 for the EMA IgA assay (95% CI, 0.87-0.94).
- Nevertheless, they identified villous atrophy with low levels of sensitivity: 0.50 for the tTG IgA assay (95% CI, 0.41-0.60) and 0.45 for the EMA IgA assay (95% CI, 0.34-0.57).
- In pediatric and adult patients, the tests had similar levels of performance.

IBD

Aliment Pharmacol Ther. 2017 May 19. doi: 10.1111/apt.14145.

Inflammatory bowel disease is presenting sooner after immigration in more recent US immigrants from Cuba.

Damas OM¹, Avalos DJ², Palacio AM³, Gomez L⁴, Quintero MA⁴, Deshpande AR¹, Sussman DA¹, McCauley JL⁴, Lopez J¹, Schwartz SJ⁵, Abreu MT¹.

Author information

Abstract

BACKGROUND:

Despite a rising incidence of inflammatory bowel disease (IBD) in Hispanics in the United States, there are no studies examining the relationship between immigrant generation and IBD onset among Hispanics.

AIMS:

To determine whether age of IBD diagnosis, time from immigration to IBD diagnosis and IBD phenotype, differed across immigration periods in South Florida Cuban immigrants.

METHODS:

This was a cohort of consecutively identified Cuban-born adults who developed IBD in the United States and were followed in gastroenterology (GI) clinic. We divided time cohorts of immigration by historical relevance: before 1980, 1980-1994 and 1995-to-present. We examined differences across time cohorts in diagnosis age, time from immigration to IBD diagnosis, and IBD phenotype (ie, IBD type, disease location).

RESULTS:

A total of 130 Cuban patients with IBD were included. Age of IBD diagnosis was older in Cubans arriving before 1980 than in those arriving between 1980-1994 or after 1995 (44.7 vs 33.79 and 33.71, respectively, $P < .0001$). Time between immigration and diagnosis was shorter in patients arriving to the US after 1980 (31.77 years, Standard deviation (SD) 12.83 (<1980) vs 17.13 years, SD 8.55 (1980-1994) and 8.30 years, SD 4.72 (1995-to-present). IBD phenotype, including type of IBD, disease location and surgeries, did not differ significantly across time cohorts.

CONCLUSIONS:

Our study describes changing patterns of IBD onset following immigration in Cubans, suggesting that environmental changes either in the United States, Cuba or both are resulting in faster IBD onset in younger immigrant generations. These studies can inform the search for environmental triggers that may result in IBD.

13. CRANIUM/TMJ

Dysphagia

Dysphagia. 2017 May 16. doi: 10.1007/s00455-017-9808-0.

The Prevalence of Oropharyngeal Dysphagia in Adults Presenting with Temporomandibular Disorders Associated with Rheumatoid Arthritis: A Systematic Review and Meta-analysis.

Gilheaney Ó¹, Zgaga L², Harpur I³, Sheaf G³, Kiefer L⁴, Béchet S⁴, Walshe M⁴.
Author information

Abstract

Temporomandibular disorders (TMDs) are the most frequent non-dental orofacial pain disorders and may be associated with rheumatoid arthritis (RA), resulting in oropharyngeal dysphagia (OD). However, clinicians' understanding of involvement with OD caused by RA-related TMDs is limited and the methodological quality of research in this field has been criticised.

Therefore, the aim of this study was to systematically review the prevalence of oral preparatory and oral stage signs and symptoms of OD in adults presenting with TMDs associated with RA. A systematic review of the literature was completed. The following electronic databases were searched from inception to February 2016, with no date/language restriction: EMBASE, PubMed, CINAHL, Web of Science, Elsevier Scopus, Science Direct, AMED, The Cochrane Database of Systematic Reviews, and ProQuest Dissertations and Theses A & I. Grey literature and reference lists of the included studies were also searched. Studies reporting the frequency of OD in adults presenting with TMD and RA were included. Study eligibility and quality were assessed by three independent reviewers. Methodological quality was assessed using the Down's and Black tool. The search yielded 19 eligible studies. Typical difficulties experienced by RA patients included impaired swallowing (24.63%), impaired masticatory ability (30.69%), masticatory pain (35.58%), and masticatory fatigue (21.26%).

No eligible studies reported figures relating to the prevalence of weight loss. Eligible studies were deemed on average to be of moderate quality. Study limitations included the small number of studies which met the inclusion criteria and the limited amount of studies utilising objective assessments. Valid and reliable prospective research is urgently required to address the assessment and treatment of swallowing difficulties in RA as TMJ involvement may produce signs and symptoms of OD

Oral health

Atherosclerosis. 2017 May 11;262:101-106. doi: 10.1016/j.atherosclerosis.2017.05.009.

Oral health and cardiovascular disease risk in a cohort of periodontitis patients.

Holmlund A¹, Lampa E², Lind L².
Author information

Abstract***BACKGROUND AND AIMS:***

The aim of this study was to determine whether oral health is uniformly associated with three different cardiovascular diseases (CVDs), including myocardial infarction (MI), stroke, and heart failure (HF), which has not been studied previously.

METHODS:

A full mouth investigation was performed in 8999 individuals referred to a specialized periodontology clinic between 1979 and 2012. The number of deepened pockets (NDP), number of teeth (NT), and bleeding on probing (BOP) were investigated. Incident CVD diagnosis was obtained from the Swedish cause of death and the hospital discharge registers.

RESULTS:

During a median follow-up time of 15.8 years (153,103 person years at risk), 1338 incident cases of fatal/non-fatal CVD occurred (672 fatal/non-fatal MI, 545 stroke and 302 HF). When NT, BOP and NDP were all included in the same model with age, sex, smoking, calendar time, and education level, NT and NDP, but not BOP, were significantly related to future CVD (combined end-point, $p = 0.0003$ for NT and $p = 0.007$ for NDP). In similar analyses of 3 separate CVD outcomes, NT was significantly related to MI, with an incidence rate ratio (IRR) for a given interquartile range change of 0.90 (95% CI 0.82-0.99) and to HF, with an IRR of 0.87 (95% CI 0.77-0.99). However, NT was not significantly related to stroke. BOP and NDP were not significantly related to any of the three separate CVD outcomes.

CONCLUSION:

Oral health, mainly represented by NT, was related to incident MI and HF, but not to incident stroke. Therefore, oral health does not seem to relate to all major CV disorders in a similar fashion.

Swallowing**Assessing the pre- and postpeak phases in a swallow using esophageal pressure topography**

Authors

Y. Xiao, D. A. Carlson, Z. Lin, N. Rinella, D. Sifrim, J. E. Pandolfino

DOI: 10.1111/nmo.13099 [View/save citation](#)

Background

The current paradigm of measuring esophageal contractile vigor assesses the entirety of a pressure wave using a single measurement, the distal contractile integral (DCI). We hypothesize that an assessment identifying separate phases of the contractile pressure wave before and after the pressure peak may help distinguish abnormalities in patients presenting with chest pain and dysphagia. The aim of the present study was to develop a technique to assess the individual phases and report on the values in healthy controls.

Methods

Seventy-one healthy controls were enrolled. High-resolution manometry studies of five intact liquid swallows in both supine and upright positions were analyzed using a customized MATLAB program to divide swallows into a prepeak phase and postpeak phase, and compute the contractile integral of both phases. The contractile integrals were also controlled by duration over each phase.

Key Results

The composite DCI measurement in healthy controls appears to be weighted toward slightly higher contractile activity during postpeak phase based on postpeak to prepeak ratios in both the supine and upright position (1.50 and 1.49, respectively). The contribution of postpeak phase on the composite DCI was weakened when controlled by time (0.92 and 0.96 in both supine and upright position, respectively).

Conclusions and Inferences

We developed a novel measurement focused on separating the prepeak and postpeak components of the peristaltic contractile activity during swallowing. Using this technique, it appears that overall contractile activity is higher during postpeak phase and this is related to the longer time component during this phase.

Oral health and celiac disease

Self-reported oral health and xerostomia in adult celiac disease patients versus a comparison group

Tom van Gils, MD Gerd Bouma, MD PhD Hetty J. Bontkes, PhD Chris J.J. Mulder, MD PhD Henk S. Brand, PhD

DOI: <http://dx.doi.org/10.1016/j.o000.2017.05.475>

Abstract

Objectives

This study aimed to assess the impact of celiac disease (CD) on oral health and xerostomia.

Study Design

Members of the Dutch Celiac Society (n=5,522) were invited to complete an online questionnaire based on the Oral Health Impact Profile 14 (OHIP-14) and Xerostomia Inventory (XI).

Acquaintances and partners of the CD respondents served as the comparison group. In total, data of 740 CD patients and 270 comparison participants were evaluated.

Results

The median age of the responding CD patients (55 years) was similar to the median age in the comparison group (53 years). Oral health problems, including aphthous stomatitis, painful mouth, and gingival problems, were more frequently reported by CD patients. Mean OHIP-14 score (4.9 vs 2.6, $p<0.001$) and the mean XI score (22.2 vs 17.2, $p<0.001$) were higher in CD than in the comparison group. No significant effects of gender, age at CD diagnosis or time on a gluten-free diet in mean OHIP-14 and XI scores were observed.

Conclusions

This study showed that oral health problems are more commonly experienced in adult CD patients than in the comparison group. Collaboration between dentists and gastroenterologists is recommended to increase detection of undiagnosed CD.

14. HEADACHES

Migraine helped with acupuncture

Acupuncture modulates the abnormal brainstem activity in migraine without aura patients

NeuroImage: Clinical

Li Z, et al.

Using amplitude of low–frequency fluctuations (ALFF) calculation method, the clinicians aimed to compare the spontaneous brain activity differences between Migraine without Aura (MwoA) patients and healthy controls (HCs) and to investigate how an effective treatment (verum acupuncture) could modulate the ALFF of MwoA patients. They concluded that in the neural pathophysiology of migraines, impairment of the homeostasis of the trigeminovascular nociceptive pathway is involved. Effective treatments like verum acupuncture could help to restore this imbalance.

Methods

- The clinicians recruited 100 MwoA patients and 46 matched HCs.
- They randomized patients to 4 weeks' verum acupuncture, sham acupuncture, and waiting list groups.
- While HCs only had resting state BOLD-fMRI scan at baseline, patients had resting state BOLD-fMRI scan before and after treatment.
- They used headache intensity, headache frequency, self-rating anxiety and self-rating depression for clinical efficacy evaluation.

Results

- MwoA patients demonstrated increased ALFF in posterior insula and putamen/caudate, and reduced ALFF in rostral ventromedial medulla (RVM)/trigemincervical complex (TCC) compared with HCs.
- In migraine patients, the decreased ALFF of the RVM/TCC was normalized after longitudinal verum acupuncture treatment.
- In migraine patients, verum acupuncture and sham acupuncture have different modulation effects on ALFF of RVM/TCC.

21. ADHESIVE CAPSULITIS

Diabetes

J Shoulder Elbow Surg. 2017 May 8. pii: S1058-2746(17)30176-3. doi: 10.1016/j.jse.2017.03.015.

The relationship between the incidence of adhesive capsulitis and hemoglobin A1c.

Chan JH¹, Ho BS², Alvi HM³, Saltzman MD¹, Marra G¹.
Author information

Abstract

BACKGROUND:

Previous studies have shown no correlation between adhesive capsulitis and hemoglobin A_{1c} (HbA_{1c}). However, HbA_{1c} is only a measure of short-term blood sugar control. We created a previously nonvalidated variable, cumulative HbA_{1c}, that uses HbA_{1c} values over time to estimate the total disease burden a single individual experiences over a period. In this study, we aimed to evaluate whether a correlation exists between cumulative HbA_{1c} levels in diabetic patients and the prevalence of frozen shoulder. We hypothesized that poor long-term glucose control would be correlated with increased incidence of adhesive capsulitis.

METHODS:

A retrospective analysis at a single institution was performed. Data from all patients from a single institution with any HbA_{1c} values were collected. A total of 24,417 patients met the inclusion criteria. A variable was created establishing the cumulative magnitude of abnormal HbA_{1c} values over time, termed "cumulative HbA_{1c}." Logistic regression analysis was performed to determine whether long-term glucose control was predictive of the development of adhesive capsulitis.

RESULTS:

Cumulative HbA_{1c} was positively associated with adhesive capsulitis (7.6×10^{-5}) (ie, odds ratio of 1.000076). The effect size of cumulative HbA_{1c} on adhesive capsulitis was significant; for each unit of time that the HbA_{1c} level was greater than 7, there was a 2.77% increase in the risk of adhesive capsulitis.

DISCUSSION:

Cumulative HbA_{1c} was associated with an increased incidence of adhesive capsulitis. This finding suggests that the effects of diabetes that predispose patients to the development of adhesive capsulitis are dose dependent. Patients with worse blood sugar control over a longer period are at an increased risk of the development of adhesive capsulitis.

Cortisone injections

Clin J Sport Med. 2017 May;27(3):308-320. doi: 10.1097/JSM.0000000000000358.

Corticosteroid Injections for Adhesive Capsulitis: A Review.

Xiao RC¹, Walley KC, DeAngelis JP, Ramappa AJ.

Author information

Abstract

OBJECTIVE:

Adhesive capsulitis is a self-limiting condition in a majority of patients and is often treated nonoperatively. However, symptoms may take 2 to 3 years to resolve fully. A small, but significant, portion of patients require surgical intervention. The purpose of this systematic review is to evaluate the efficacy of corticosteroid injections for the treatment of adhesive capsulitis (AC).

DATA SOURCES:

A review of articles indexed by the United States National Library of Medicine was conducted by querying the PubMed database for studies involving participants with AC, frozen shoulder, stiff shoulder, or painful shoulder. Articles that included corticosteroids, glucocorticoids, steroids, and injections were included.

MAIN RESULTS:

Corticosteroid injections provide significant symptom relief for 2 to 24 weeks. Injections can be performed intra-articularly or into the subacromial space. Evidence suggests that a 20 mg dose of triamcinolone may be as effective as a 40 mg injection. It remains unclear whether image-guided injections produce a clinically significant difference in outcomes when compared with landmark-guided (blind) injections. Corticosteroids may be less beneficial for diabetic patients. Patients using protease inhibitors (antiretroviral therapy) should not receive triamcinolone because the drug-drug interaction may result in iatrogenic Cushing syndrome.

CONCLUSIONS:

Corticosteroid injections for AC demonstrate short-term efficacy, but may not provide a long-term benefit. More high quality, prospective studies are needed to determine whether corticosteroid injections using ultrasound guidance significantly improve outcomes.

27. HIP**Hip fx and influenza vaccine**

Osteoporos Int. 2017 May 23. doi: 10.1007/s00198-017-4077-1.

Is the association between hip fractures and seasonality modified by influenza vaccination? An ecological study.

Fraenkel M^{1,2}, Yitshak-Sade M^{3,4}, Beacher L⁴, Carmeli M^{3,5}, Mandelboim M^{6,7}, Siris E⁸, Novack V^{3,4}.

Author information

Abstract

Osteoporotic hip fractures in 4344 patients were more common during winter. Lower temperatures were associated with higher rates of fracture only in those not vaccinated for influenza. Influenza outbreaks increased the risk of hip fractures. Further studies are needed to assess whether influenza vaccination can prevent hip fractures.

INTRODUCTION:

Winter seasonality of osteoporotic hip fracture incidence has been demonstrated, yet the explanation for the association is lacking. We hypothesize that the seasonality of osteoporotic hip fracture can be explained by an association between hip fractures and seasonal influenza outbreaks.

METHODS:

This retrospective cohort study included all patients admitted to Soroka University Medical Center with a diagnosis of osteoporotic hip fracture (ICD-9 code 820) between the years 2001 and 2013. Patients with malignancies, trauma, and age under 50 were excluded. In a time series analysis, we examined the association between hip fracture incidence and seasonality adjusted for meteorological factors, and population rates of influenza infection and vaccination using Poisson models.

RESULTS:

Four thousand three hundred forty-four patients with a hip fracture were included (69% females, mean age 78). Daily fracture rates were significantly higher in winter (1.1 fractures/day) compared to summer, fall, and spring (0.79, 0.90, and 0.91; $p < 0.001$). In analysis adjusted for seasons and spline function of time, temperatures were associated with hip fractures risk only in those not vaccinated for influenza ($n = 2939$, for every decrease of 5 °C, RR 1.08, CI 1.02-1.16; $p < 0.05$). In subgroup analysis during the years with weekly data on national influenza rates (2010-2013), the risk for hip fracture, adjusted for seasons and temperature, was 1.26 2 weeks following a week with high infection burden (CI 1.05;1.51 $p = 0.01$), while the temperature was not significantly associated with the fracture risk.

CONCLUSIONS:

Under dry and warm desert climate, winter hip fracture incidence increase might be associated with influenza infection, and this effect can be negated by influenza vaccination.

Return to play

Knee Surg Sports Traumatol Arthrosc. 2017 May 17. doi: 10.1007/s00167-017-4573-z.

Assessing long-term return to play after hip arthroscopy in football players evaluating risk factors for good prognosis.

Barastegui D^{1,2}, Seijas R^{3,4}, Alvarez-Diaz P^{1,2,5}, Rivera E^{1,2}, Alentorn-Geli E^{1,2}, Steinbacher G², Cuscó X¹, Cugat R^{1,2}.

Author information

Abstract**PURPOSE:**

Groin pain is the third most common disease in football players and has often been associated with hip pathology such as femoroacetabular impingement and labral lesions. Hip arthroscopy offers possibilities of function restoration via minimally invasive procedures. The aim of this study is to evaluate professional football player's injuries and their return to play after hip arthroscopy for FAI and labral injuries.

METHODS:

Patients that underwent hip arthroscopy between 2009 and 2014 were selected retrospectively. From this population, only professional soccer players competing at national level were included (Tegner 10). Arthroscopic surgery was proposed in patients with persistent pain. All patients were assessed for VAS score preoperatively and at 3, 6, 12 and 24 months post-op. HOS (sport and DLA) and mHHS tests were performed at the same time periods.

RESULTS:

All patients were men with a mean age of 26.5 ± 7.1 years old. Preoperative VAS (7.4 ± 1.3), HOS ADL (67.7 ± 5.5), HOS sport (37.6 ± 18.7) and mHHS (72.5 ± 8.8) showed improved scores during long-term follow-up. Time to return to play was 10.8 months (SD ± 4.3), with range between 4 and 20 months. Mean follow-up was 45.4 ± 15.6 months (range from 26 to 72 months). No differences were observed between non-active and active patients at final follow-up with respect to chondral lesions, but significant differences were observed with reference to management of the labrum ($p = 0.031$), where a higher rate of labrectomies existed among inactive patients and a higher rate of suture among active patients.

CONCLUSIONS:

Hip arthroscopy is a safe procedure with very good return to play results, but for optimized return to football one should consider patient age at the time of surgery, the condition of the labrum and low scores on the Harris Hip Score (mHHS) and HOS (sport version) as predictive factors for poor prognosis. Level of evidence IV.

35. KNEE/TOTAL**Blood flow restrictions**

Clin J Sport Med. 2017 May;27(3):245-252. doi: 10.1097/JSM.0000000000000377.

Blood Flow Restriction Training After Knee Arthroscopy: A Randomized Controlled Pilot Study.

Tennent DJ¹, Hylden CM, Johnson AE, Burns TC, Wilken JM, Owens JG.
Author information

Abstract

INTRODUCTION:

Quadriceps strength after arthroscopic knee procedures is frequently diminished several years postoperation. Blood flow restriction (BFR) training uses partial venous occlusion while performing submaximal exercise to induce muscle hypertrophy and strength improvements. The purpose of this study was to evaluate BFR as a postoperative therapeutic intervention after knee arthroscopy.

METHODS:

A randomized controlled pilot study comparing physical therapy with and without BFR after knee arthroscopy was conducted. Patients underwent 12 sessions of supervised physical therapy. Subjects followed the same postoperative protocol with the addition of 3 additional BFR exercises. Outcome measures included thigh girth, physical function measures, Knee Osteoarthritis Outcome Score (KOOS), Veterans RAND 12-Item Health Survey (VR12), and strength testing. Bilateral duplex ultrasonography was used to evaluate for deep venous thrombosis preintervention and postintervention.

RESULTS:

Seventeen patients completed the study. Significant increases in thigh girth were observed in the BFR group at 6-cm and 16-cm proximal to the patella ($P = 0.0111$ and 0.0001). All physical outcome measures significantly improved in the BFR group, and the timed stair ascent improvements were greater than conventional therapy ($P = 0.0281$). The VR-12 and KOOS subscales significantly improved in the BFR group, and greater improvement was seen in VR-12 mental component score ($P = 0.0149$). The BFR group displayed approximately 2-fold greater improvements in extension and flexion strength compared with conventional therapy (74.59% vs 33.5%, $P = 0.034$). No adverse events were observed during the study.

CONCLUSIONS:

This study suggests that BFR is an effective intervention after knee arthroscopy. Further investigation is warranted to elucidate the benefits of this intervention in populations with greater initial impairment.

37. OSTEOARTHRITIS/KNEE**Chondroitin Sulfate as effective as Celebrex**

Ann Rheum Dis. 2017 May 22. pii: annrheumdis-2016-210860. doi: 10.1136/annrheumdis-2016-210860.

Pharmaceutical-grade Chondroitin sulfate is as effective as celecoxib and superior to placebo in symptomatic knee osteoarthritis: the ChONDroitin versus CElecoxib versus Placebo Trial (CONCEPT).

Reginster JY¹, Dudler J², Blicharski T³, Pavelka K⁴.

Author information

Abstract

OBJECTIVES:

Chondroitin sulfate 800 mg/day (CS) pharmaceutical-grade in the management of symptomatic knee osteoarthritis consistent with the European Medicines Agency guideline.

METHODS:

A prospective, randomised, 6-month, 3-arm, double-blind, double-dummy, placebo and celecoxib (200 mg/day)-controlled trial assessing changes in pain on a Visual Analogue Scale (VAS) and in the Lequesne Index (LI) as coprimary endpoints. Minimal-Clinically Important Improvement (MCII), Patient-Acceptable Symptoms State (PASS) were used as secondary endpoints.

RESULTS:

604 patients (knee osteoarthritis) diagnosed according to American College of Rheumatology (ACR) criteria, recruited in five European countries and followed for 182 days. CS and celecoxib showed a greater significant reduction in pain and LI than placebo. In the intention-to-treat (ITT) population, pain reduction in VAS at day 182 in the CS group (-42.6 mm) and in celecoxib group (-39.5 mm) was significantly greater than the placebo group (-33.3 mm) (p=0.001 for CS and p=0.009 for celecoxib), while no difference observed between CS and celecoxib. Similar trend for the LI, as reduction in this metric in the CS group (-4.7) and celecoxib group (-4.6) was significantly greater than the placebo group (-3.7) (p=0.023 for CS and p=0.015 for celecoxib), no difference was observed between CS and celecoxib. Both secondary endpoints (MCII and PASS) at day 182 improved significantly in the CS and celecoxib groups. All treatments demonstrated excellent safety profiles.

CONCLUSION:

A 800 mg/day pharmaceutical-grade CS is superior to placebo and similar to celecoxib in reducing pain and improving function over 6 months in symptomatic knee osteoarthritis (OA) patients. This formulation of CS should be considered a first-line treatment in the medical management of knee OA.

Dietary fiber helps

Ann Rheum Dis. 2017 May 23. pii: annrheumdis-2016-210810. doi: 10.1136/annrheumdis-2016-210810.

Dietary intake of fibre and risk of knee osteoarthritis in two US prospective cohorts.

Dai Z¹, Niu J¹, Zhang Y¹, Jacques P¹, Felson DT^{1,2}.
Author information

Abstract

OBJECTIVES:

Dietary fibre reduces body weight and inflammation both of which are linked with knee osteoarthritis (OA). We examined the association between fibre intake and risk of knee OA.

METHODS:

We used data from the Osteoarthritis Initiative (OAI) of 4796 participants and Framingham Offspring Osteoarthritis Study (Framingham) of 1268 persons. Dietary intake of fibre was estimated at baseline, and incident radiographic OA (ROA) and symptomatic OA (SxOA) were followed annually until 48 months in OAI and assessed 9 years later in Framingham. Knee pain worsening was also examined in OAI. Generalised estimating equations were applied in multivariable regression models.

RESULTS:

In OAI, we identified 861 knees with SxOA, 152 knees with ROA and 1964 knees with pain worsening among 4051 subjects with valid dietary intake (baseline mean age: 61.2 years; mean body mass index (BMI): 28.6). In Framingham, 143 knees with SxOA and 175 knees with ROA among 971 such subjects (baseline mean age: 53.9 years; mean BMI: 27.0) were identified. In both cohorts, dietary total fibre was inversely associated with risk of SxOA (p trend <0.03) with significantly lower risk at the highest versus lowest quartile (OR (95% CI): 0.70 (0.52, 0.94) for OAI and 0.39 (0.17, 0.88) for Framingham). Furthermore, dietary total and cereal fibre were significantly inversely associated with knee pain worsening in OAI (p trend <0.02). No apparent association was found with ROA.

CONCLUSIONS:

Findings from two longitudinal studies consistently showed that higher total fibre intake was related to a lower risk of SxOA, while the relation to ROA was unclear.

Walking and OA

The influence of continuous versus interval walking exercise on knee joint loading and pain in patients with knee osteoarthritis

Gait and Posture

Farrokhi S, et al.

This study was intended to assess whether knee contact force and knee pain are different between continuous and interval walking exercise in patients with knee osteoarthritis (OA). The data showed that walking exercise durations of 30 min or greater may lead to undesirable knee joint loading in patients with knee osteoarthritis, while performing the same volume of exercise in multiple bouts as opposed to one continuous bout may be beneficial for limiting knee pain.

Methods

- In this study, 27 patients with unilateral symptomatic knee OA completed two separate walking exercise sessions on a treadmill at 1.3 m/s on two different days: 1) a continuous 45 min walking exercise session, and 2) three 15 min bouts of walking exercise separated by 1 h rest periods for a total of 45 min of exercise in an interval format.
- Applying the OpenSim software, estimated knee contact forces and knee pain were examined at baseline (1st minute of walking) and after every 15 min between the continuous and interval walking conditions.

Results

- They found a significant increase from baseline in peak knee contact force during the weight-acceptance phase of gait after 30 and 45 min of walking, irrespective of the walking exercise condition.
- Although continuous walking resulted in an increase in knee pain, interval walking did not lead to increased knee pain.

Knee extensor strength and OA

Ann Rheum Dis. 2017 May 9. pii: annrheumdis-2016-210888. doi: 10.1136/annrheumdis-2016-210888.

Knee extensor strength and body weight in adolescent men and the risk of knee osteoarthritis by middle age.

Turkiewicz A¹, Timpka S^{2,3}, Thorlund JB⁴, Ageberg E⁵, Englund M^{1,6}.

Author information

Abstract**OBJECTIVES:**

To assess the extent to which knee extensor strength and weight in adolescence are associated with knee osteoarthritis (OA) by middle age.

METHODS:

We studied a cohort of 40 121 men who at age 18 years in 1969/1970 underwent mandatory conscription in Sweden. We retrieved data on isometric knee extensor strength, weight, height, smoking, alcohol consumption, parental education and adult occupation from Swedish registries. We identified participants diagnosed with knee OA or knee injury from 1987 to 2010 through the National Patient Register. We estimated the HR of knee OA using multivariable-adjusted Cox proportional regression model. To assess the influence of adult knee injury and occupation, we performed a formal mediation analysis.

RESULTS:

The mean (SD) knee extensor strength was 234 (47) Nm, the mean (SD) weight was 66 (9.3) kg. During 24 years (median) of follow-up starting at the age of 35 years, 2049 persons were diagnosed with knee OA. The adjusted HR (95% CI) of incident knee OA was 1.12 (1.06 to 1.18) for each SD of knee extensor strength and 1.18 (1.15 to 1.21) per 5 kg of body weight. Fifteen per cent of the increase in OA risk due to higher knee extensor strength could be attributed to knee injury and adult occupation.

CONCLUSION:

Higher knee extensor strength in adolescent men was associated with increased risk of knee OA by middle age, challenging the current tenet of low muscle strength being a risk factor for OA. We confirmed higher weight to be a strong risk factor for knee OA.

54. POSTURE**Postural stability in dyslexic patients**

July 2017 Volume 56, Pages 141–146

Influence of both cutaneous input from the foot soles and visual information on the control of postural stability in dyslexic children

Nathalie Goulème Philippe Villeneuve Christophe-Loïc Gérard Maria Pia Bucci

Highlights

- Postural parameters are significantly greater in dyslexic children with respect to non-dyslexic children.
- Postural parameters change depending to visual or postural condition.
- RQ is significantly smaller in dyslexic children and it depends to postural conditions.

Abstract

Dyslexic children show impaired in postural stability. The aim of our study was to test the influence of foot soles and visual information on the postural control of dyslexic children, compared to non-dyslexic children. Postural stability was evaluated with TechnoConcept® platform in twenty-four dyslexic children (mean age: 9.3 ± 0.29 years) and in twenty-four non-dyslexic children, gender- and age-matched, in two postural conditions (with and without foam: a 4-mm foam was put under their feet or not) and in two visual conditions (eyes open and eyes closed). We measured the surface area, the length and the mean velocity of the center of pressure (CoP). Moreover, we calculated the Romberg Quotient (RQ). Our results showed that the surface area, length and mean velocity of the CoP were significantly greater in the dyslexic children compared to the non-dyslexic children, particularly with foam and eyes closed. Furthermore, the RQ was significantly smaller in the dyslexic children and significantly greater without foam than with foam. All these findings suggest that dyslexic children are not able to compensate with other available inputs when sensorial inputs are less informative (with foam, or eyes closed), which results in poor postural stability. We suggest that the impairment of the cerebellar integration of all the sensorial inputs is responsible for the postural deficits observed in dyslexic children.

56. ATHLETICS**Groin injuries and exercise**

Sports Med. 2017 May 12. doi: 10.1007/s40279-017-0742-y.

Exercise Interventions for the Prevention and Treatment of Groin Pain and Injury in Athletes: A Critical and Systematic Review.

Charlton PC^{1,2}, Drew MK^{3,4}, Mentiplay BF^{5,6}, Grimaldi A⁷, Clark RA⁶.
Author information

Abstract**BACKGROUND:**

Groin injury is a common musculoskeletal complaint for athletes competing in a variety of sports. The extent to which exercise interventions incorporating external load are an appropriate option for the treatment and prevention of groin injury in athletes is not yet clear.

OBJECTIVES:

The aim of this review was to describe and evaluate exercise therapy interventions and outcomes for the treatment and prevention of groin injury with specific attention to application of external load.

DATA SOURCES:

The databases Medline, PubMed, SPORTDiscus, Web of Science, and Cochrane were searched on 18 April 2016.

STUDY ELIGIBILITY CRITERIA:

This review was registered as PROSPERO CRD42016037752 and a systematic search was conducted with the following inclusion criteria: any study design evaluating exercise interventions for the prevention or treatment of groin pain in athletes.

DATA ANALYSIS:

Two independent authors screened search results, performed data extraction, assessed risk of bias using the modified Downs and Black appraisal tool and determined strength and level of evidence. Reporting standards for exercise interventions were assessed using the Consensus for Exercise Reporting Template (CERT).

RESULTS:

A total of 1320 titles were identified with 14 studies satisfying the inclusion criteria, four (29%) of which demonstrated low risk of bias. Ten (71%) studies utilised external load as a component of the exercise intervention. Reporting standards for exercise intervention scores ranged from 0 to 63%.

CONCLUSION:

There is limited evidence from level 2 and 3 studies indicating exercise therapy may reduce the incidence and hazard risk of sustaining a groin injury in athletes. There is strong evidence from level 4 studies indicating exercise therapy is beneficial as a treatment for groin injury in athletes in terms of symptom remission, return to sport and recurrence outcomes. However, there are limited studies with low risk of bias, and exercise interventions for the treatment of groin injury are poorly described.

61. FIBROMYALGIA**Changes in bone mineral density**

Clin Rheumatol. 2017 May 23. doi: 10.1007/s10067-017-3683-9.

Association between low bone mineral density and fibromyalgia: a meta-analysis.

Lee YH¹, Song GG².

Author information

Abstract

We aimed to evaluate the relationship between bone mineral density (BMD) and fibromyalgia (FM). Meta-analyses were performed comparing BMD in FM patients and healthy controls, and in FM patients in subgroups based on ethnicity, BMD site, age, sex, and measurement method. Twelve studies including 695 FM patients and 784 controls were selected. Meta-analysis by ethnicity revealed a significantly lower BMD in the FM group in Caucasian populations [standardized mean difference (SMD) = -0.144, 95% CI = -0.271-(-0.017), $p = 0.026$], but not in Turkish populations. Subgroup analysis by BMD site showed that BMD was significantly lower in the FM group than in the control group in the lumbar spine [SMD = -0.588 (medium), 95% CI = -1.142-(-0.033), $p = 0.038$], but not in the femur neck and hip. Stratification by measurement method revealed a significantly lower BMD in the FM group by dual X-ray absorptiometry and dual-photon absorptiometry [SMD = -0.531 (medium), 95% CI = -1.040-(-0.023), $p = 0.041$; SMD = -0.315 (small), 95% CI = -0.544-(-0.085), $p = 0.007$, respectively], but not by quantitative ultrasound, but not by quantitative ultrasound. Subgroup analysis by sex, menopause status, and age revealed a significantly lower BMD in the female FM group [SMD = -0.588 (medium), 95% CI = -1.142-(-0.033), $p = 0.038$], but not in the pre-menopausal group and the group greater than mean age 50 years old.

Our meta-analysis demonstrated that BMD was significantly lower in FM patients in Caucasian and female populations.

63. PHARMACOLOGY**Seizure control with cannabidiol**

N Engl J Med. 2017 May 25;376(21):2011-2020. doi: 10.1056/NEJMoa1611618.

Trial of Cannabidiol for Drug-Resistant Seizures in the Dravet Syndrome.

Devinsky O¹, Cross JH¹, Laux L¹, Marsh E¹, Miller I¹, Nabbout R¹, Scheffer IE¹, Thiele EA¹, Wright S¹; Cannabidiol in Dravet Syndrome Study Group.

Author information**Abstract****BACKGROUND:**

The Dravet syndrome is a complex childhood epilepsy disorder that is associated with drug-resistant seizures and a high mortality rate. We studied cannabidiol for the treatment of drug-resistant seizures in the Dravet syndrome.

METHODS:

In this double-blind, placebo-controlled trial, we randomly assigned 120 children and young adults with the Dravet syndrome and drug-resistant seizures to receive either cannabidiol oral solution at a dose of 20 mg per kilogram of body weight per day or placebo, in addition to standard antiepileptic treatment. The primary end point was the change in convulsive-seizure frequency over a 14-week treatment period, as compared with a 4-week baseline period.

RESULTS:

The median frequency of convulsive seizures per month decreased from 12.4 to 5.9 with cannabidiol, as compared with a decrease from 14.9 to 14.1 with placebo (adjusted median difference between the cannabidiol group and the placebo group in change in seizure frequency, -22.8 percentage points; 95% confidence interval [CI], -41.1 to -5.4; P=0.01). The percentage of patients who had at least a 50% reduction in convulsive-seizure frequency was 43% with cannabidiol and 27% with placebo (odds ratio, 2.00; 95% CI, 0.93 to 4.30; P=0.08). The patient's overall condition improved by at least one category on the seven-category Caregiver Global Impression of Change scale in 62% of the cannabidiol group as compared with 34% of the placebo group (P=0.02). The frequency of total seizures of all types was significantly reduced with cannabidiol (P=0.03), but there was no significant reduction in nonconvulsive seizures. The percentage of patients who became seizure-free was 5% with cannabidiol and 0% with placebo (P=0.08). Adverse events that occurred more frequently in the cannabidiol group than in the placebo group included diarrhea, vomiting, fatigue, pyrexia, somnolence, and abnormal results on liver-function tests. There were more withdrawals from the trial in the cannabidiol group.

CONCLUSIONS:

Among patients with the Dravet syndrome, cannabidiol resulted in a greater reduction in convulsive-seizure frequency than placebo and was associated with higher rates of adverse events.