

ABSTRACTS

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2. LBP

Classification system

The Treatment-Based Classification System for Low Back Pain: Revision and Update

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Abstract

The treatment-based classification system (TBC) for the treatment of patients with low back pain (LBP) has been in use by clinicians since 1995. In this manuscript, we updated the TBC by maintaining its strengths, addressing its limitations, and incorporating recent research developments.

The current update of the TBC has two levels of triage: the level of the first contact healthcare provider and the level of the rehabilitation provider. At the level of first contact healthcare provider, the purpose of the triage is to determine if the patient is an appropriate candidate for rehabilitation either by ruling out serious pathologies and serious comorbidities, or determining whether the patient is appropriate for self-care management. At the level of the rehabilitation provider, the purpose of the triage is to determine the most appropriate rehabilitation approach given the patient's clinical presentation.

We described 3 rehabilitation approaches. A symptom modulation approach is for patients with a recent, new or recurrent, LBP episode that has caused significant symptomatic features. A movement control approach is for patients with moderate pain and disability status. A function optimization approach is for patients with low pain and disability status. We emphasized that the psychological and comorbid status should be assessed and addressed in each patient. We linked this updated TBC to the American Physical Therapy Association Practice Guidelines for Low Back Pain.

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LBP and radicular pain predictions

BMC Musculoskelet Disord. 2015 Dec 3;16(1):374. doi: 10.1186/s12891-015-0827-4.

Back pain was less explained than leg pain: a cross-sectional study using magnetic resonance imaging in low back pain patients with and without radiculopathy.

Jensen OK¹, Nielsen CV², Sørensen JS³, Stengaard-Pedersen K⁴.

Author information

Abstract

BACKGROUND:

Cross-sectional studies have shown associations between lumbar degenerative manifestations on magnetic resonance imaging (MRI) and low back pain (LBP). Disc herniations and other degenerative manifestations, however, frequently occur in asymptomatic individuals. The purpose of this cross-sectional study was to analyze for associations between pain intensity and degenerative manifestations and other pain variables in patients for whom prognostic factors have been published previously.

METHODS:

Included were 141 consecutive patients with and without radiculopathy, all sick-listed 1-4 months due to low back pain and subsequently examined by MRI of the lumbar spine. Using different methods of grouping the degenerative manifestations, linear regression analyses were performed with the intensity of back + leg pain, back pain and leg pain as dependent variables covering actual pain and pain the preceding 2 weeks. The clinical classification into +/- radiculopathy was established before and independently of the standardised description of MRI findings.

RESULTS:

Radiculopathy was present in 43 % of the patients. Pain was best explained using rank-ordered degenerative manifestations on MRI. Back pain and leg pain were differently associated, and back pain was less explained than leg pain in the multivariate analyses (15 % vs. 31 % of the variation). Back pain intensity was higher in patients with type 1 Modic changes and in some patients with nerve root touch, but was not associated with disc herniations. Leg pain intensity was well explained by disc herniations causing MRI nerve root compromise and radiculopathy. In patients with radiculopathy, nerve root touch caused as much leg pain as nerve root displacement or compression. High intensity zones and osteophytes were not associated with back pain, but only associated with leg pain in patients with radiculopathy. Tender points explained some of the back pain, and widespread pain explained leg pain in some of the patients without radiculopathy.

CONCLUSIONS:

Back pain was associated with type 1 Modic changes, nerve root touch and tender points, whereas leg pain was associated with osteophytes, HIZ, disc herniation, all sorts of MRI nerve root compromise, radiculopathy and widespread pain.

PMID: 26635015

3. DISC

Overweight and DJD

Spinal Disord Tech. 2015 Dec;28(10):370-6. doi: 10.1097/BSD.000000000000235.

Association Between Overweight or Obesity and Lumbar Disk Diseases: A Meta-Analysis.

Xu X¹, Li X, Wu W.
Author information

Abstract

STUDY DESIGN:

A meta-analysis.

OBJECTIVE:

We performed this meta-analysis to evaluate the association between overweight and lumbar disease.

SUMMARY OF BACKGROUND DATA:

An extensive English language literature retrieval regarding the association between overweight and the risk of lumbar disease was conducted on Public Medline and Excerpta Medica Database until May 2014.

METHODS:

Meta-analysis for all the included literatures was performed by STATA 11.0 to summarize test performance with forest plots after heterogeneity test. Moreover, subgroup and sensitivity analyses were performed to examine the potential candidate effect factors. Afterward, the likelihood of publication bias was assessed by constructing funnel plots and performing Begg rank correlation test and Egger linear regression method.

RESULTS:

A total of 5 studies satisfied the predefined eligibility criteria, including 1749 cases with lumbar disk diseases and 1885 controls. Altogether, overweight was associated with increased risk of lumbar disease [odds ratio (OR)=1.45; 95% confidence interval (CI), 1.27, 1.66; P<0.001]. Moreover, subgroup analysis proved that overweight was a predominant factor in development of lumbar disease compared with age and sex. Although significant publication bias was observed in our meta-analysis, we proved high credibility of meta-analysis result using trim and fill method (OR=1.27; 95% CI, 1.06, 1.53).

CONCLUSIONS:

We suggest that overweight might increase the risk of lumbar diseases, and weight control should be considered for overweight or obese population to reduce the occurrence and development of lumbar disease.

PMID: 25500506

5. SURGERY

Minimally invasive fusion

J Spinal Disord Tech. 2015 Dec;28(10):E559-64. doi: 10.1097/BSD.0000000000000034.

Transforaminal Lumbar Interbody Fusion in Degenerative Disk Disease and Spondylolisthesis Grade I: Minimally Invasive Versus Open Surgery.

Brodano GB¹, Martikos K, Lolli F, Gasbarrini A, Cioni A, Bandiera S, Silvestre MD, Boriani S, Greggi T.

Author information

Abstract

BACKGROUND:

Interbody fusion represents an efficient surgical treatment in degenerative lumbar disease, achieving satisfying outcome in >90% of cases. Various studies have affirmed the advantages of percutaneous and minimally invasive techniques with regard to minimized damage on soft tissues during surgical procedure, but their efficacy in comparison with the classic open surgical procedures has not yet been demonstrated.

MATERIALS AND METHODS:

This is a retrospective study. We compared 30 consecutive patients affected by disk degenerative disease or grade I degenerative spondylolisthesis that were treated with minimally invasive transforaminal lumbar interbody fusion (mini-TLIF) to a group of 34 consecutive patients presenting similar pathologic findings and demographic characteristics that underwent interbody fusion by traditional open approach (open-TLIF). All patients were treated between 2006 and 2010. Patients' mean age was 46 years (min 28-max 56) and 51 years (min 32-max 58), respectively. Mean follow-up was 23 months (min 12-max 38) and 25 months (min 12-max 40), respectively. Clinical evaluation was performed by using Visual Analogue Scale (VAS) and Oswestry Disability Index (ODI) questionnaires. Radiographic evaluation was performed on standing and dynamic x-rays before operation and at final follow-up.

RESULTS:

There was a statistically significant improvement in clinical scores (VAS and ODI) in both groups. Early postoperative VAS score was significantly lower in the mini-TLIF group. Mean hospital stay and mean blood loss were significantly higher in the open-TLIF group than in the mini-TLIF group (7.4 vs. 4.1 d and 620 vs. 230 mL, respectively). Surgical time length of the procedure was higher in the mini-TLIF group. There were no major neurological complications in any of the patients. At final follow-up, radiographic evaluation showed good implant stability in both groups.

CONCLUSIONS:

Mini-TLIF is a safe and efficient procedure and, when correctly and carefully performed, can reach good results, similar to those obtained with traditional open surgical techniques, even though it may require a longer surgical time at least during the first stages of the learning curve. Reduced surgical invasiveness, short hospital stay, and limited blood loss represent the major advantages of minimally invasive technique.

PMID:24136060

Recurrent disc herniation

J Spinal Disord Tech. 2015 Dec;28(10):E571-7. doi: 10.1097/BSD.000000000000041.

Preoperative Risk Factors for Recurrent Lumbar Disk Herniation in L5-S1.

Kim KT¹, Lee DH, Cho DC, Sung JK, Kim YB.

Author information

Abstract

BACKGROUND CONTEXT:

Although numerous studies have reported on recurrent lumbar disk herniation (rLDH), few have reported on recurrence of L5-S1 level.

PURPOSE:

We investigated whether the preoperative risk factors, such as disk degeneration, disk height, sagittal range of motion (sROM), width of L5 vertebral transverse process, and iliac crest height, have any effect on rLDH in L5-S1.

STUDY DESIGN:

A retrospective case control study.

PATIENT SAMPLE:

A total of 467 patients were enrolled in this study.

OUTCOME MEASURES:

The disk degeneration, disk height, sROM, width of L5 vertebral transverse process, and iliac crest height were calculated using magnetic resonance imaging and simple radiography.

MATERIALS AND METHODS:

We compared the clinical parameters (age, sex, body mass index, symptom duration, diabetes, smoking, preoperative visual analogue scale, herniation type, annular defect size) and preoperative radiologic parameters [disk degeneration, disk height, sROM, relative width of L5 vertebral transverse process (RT), iliac crest height index (IHI)] of recurrent and nonrecurrent groups.

RESULTS:

Patient with rLDH had its onset 39.4 ± 17.9 months (7-90 mo) after primary surgery. Of the 39 rLDH cases, herniation was ipsilateral to previous LDH in 29 patients and contralateral in 10. Multiple logistic regression analysis showed that moderate disk degeneration with preserved height (group B), a large sROM, a small RT, a low IHI, and being male were significant risk factors for rLDH.

CONCLUSIONS:

Moderate disk degeneration, a large sROM, a small RT, and a low IHI are biomechanical risk factors of rLDH in L5-S1. The results also suggested being male and having a large annular defect increase recurrence after discectomy, especially in cases of ipsilateral rLDH.

PMID:25089673

7. PELVIC ORGANS/WOMAN'S HEALTH

Endometriosis surgery and sex

When sex is not on fire: a prospective multicentre study evaluating the short-term effects of radical resection of endometriosis on quality of sex life and dyspareunia

Nadja Fritzer Ayman Tammaa Dietmar Haas Peter Oppelt Stefan Renner Daniela Hornung Monika Wölfler Uwe Ulrich Gernot Hudelist

Objective

The aim of the current study was to evaluate the effect of surgical removal of endometriosis on dyspareunia, sexual function, quality of sex life and interpersonal relationships.

Study design

A questionnaire-based multicentre prospective study was conducted in six tertiary referral centres in Austria and Germany. Ninety-six patients with histologically proven endometriosis and dyspareunia were included. Before surgery and averagely 10 months postoperatively (range 9–12 months), the Female Sexual Function Index (FSFI) and the Female Sexual Distress Scale (FSDS) were used to screen women's sexuality. Additionally, we evaluated psychological parameters and pain intensity during/after sexual intercourse via a self-administered questionnaire.

Results

Pain scores measured via NAS during/after intercourse decreased significantly after surgery. Frequencies of interrupted sexual intercourse, feelings of guilt towards the partner, being afraid of pain before/during sexual intercourse and feelings of being a burden for the relationship also decreased significantly in patients with peritoneal endometriosis and deep infiltrating endometriosis. Interestingly, sexually related personal distress did not improve in women with peritoneal endometriosis/vaginal resection, but improved in cases of deep infiltrating endometriosis (DIE).

Conclusion

Radical laparoscopic excision of endometriosis offers an effective treatment option and offers a significant improvement in dyspareunia and quality of sex life.

Keywords: Endometriosis, Dyspareunia, Surgical resection, Quality of sex life

Abdominal pain

Cephalalgia. 2015 Nov 17. pii: 0333102415617748.

Abdominal migraine.

Napthali K1, Koloski N1, Talley NJ2.

Author information

Abstract

BACKGROUND:

Abdominal migraine (AM) is a syndrome usually recognised in childhood. The syndrome is characterised by episodic attacks of severe abdominal pain and vasomotor symptoms, nausea and vomiting. It is a poorly understood disorder largely due to a limited recognition of this condition by the medical community. However, the publication of AM diagnostic guidelines by the International Headache Society a decade ago and the recognition of AM in the Rome Classification of functional gastrointestinal disorders have helped to legitimise this disorder and facilitate research.

OVERVIEW:

AM is relatively common, affecting up to 4% of the paediatric population. Whilst AM is not believed to continue into adulthood for the majority of children, it has the propensity to develop into probable migraine and recurrent abdominal pain in adulthood. The pathophysiology of this condition remains unclear and as a result treatment for this condition is suboptimal with avoidance of triggers and prophylactic treatment currently recommended when an episode begins.

CONCLUSION:

The recognition of AM by the IHS and the Rome Foundation should help facilitate future research into the pathophysiology of this debilitating condition and as a result better treatments for AM should emerge. Randomised controlled trials should be a priority.

KEYWORDS: Abdominal migraine; headache; periodic syndrome

Omega 3's and preterm prevention

Effects of omega-3 fatty acids in prevention of early preterm delivery: A systematic review and meta-analysis of randomised studies

European Journal of Obstetrics & Gynecology and Reproductive Biology, 12/08/2015 Kar S, et al.

The authors undertook a systematic review to assess the effects of omega-3 fatty acids on early (<34wks) and any (<37 weeks) preterm delivery. Omega-3 fatty acids are effective in preventing early and any preterm delivery. The intervention is simple and easily available and has the potential to influence population based strategies in the prevention of preterm birth.

Methods

- They searched MEDLINE, EMBASE and Cochrane Library from inception to 2014 without any language restrictions.
- Study selection, quality assessment and data extraction were done by two independent reviewers.
- Results were summarised as relative risks and 95% confidence intervals for dichotomous outcomes and mean differences for continuous outcomes.

Results

- Of the nine included trials (5980 women), six (4193 women) evaluated the effects of omega-3 fatty acids on early preterm delivery.
- The risk of early preterm delivery was reduced by 58% (RR 0.42; 95% CI 0.27 – 0.66; $I^2 = 0\%$; $p = 0.0002$) and any preterm delivery by 17% (RR 0.83; 95% CI 0.70 – 0.98; $I^2 = 0\%$; $p = 0.03$) with the intervention.
- There was a significant increase in the mean gestational age by 1.95 weeks (95% CI 0.42 – 3.48 weeks; $I^2 = 0.47$; $p = 0.01$) and mean birth weight by 122.1 g (95% CI 47.4 – 196.8; $I^2 = 0.84$; $p = 0.001$) in the intervention group compared to the controls.
- Subgroup analysis showed no significant differences in the effects between the groups according to the risk status, dose and timing of the intervention.

Pelvic pain

BMC Anesthesiol. 2015 Dec 1;15:175. doi: 10.1186/s12871-015-0155-0.

Anaesthetic injection versus ischemic compression for the pain relief of abdominal wall trigger points in women with chronic pelvic pain.

Montenegro ML¹, Braz CA², Rosa-E-Silva JC³, Candido-Dos-Reis FJ⁴, Nogueira AA⁵, Poli-Neto OB⁶.

Author information

Abstract

BACKGROUND:

Chronic pelvic pain is a common condition among women, and 10 to 30 % of causes originate from the abdominal wall, and are associated with trigger points. Although little is known about their pathophysiology, variable methods have been practiced clinically. The purpose of this study was to evaluate the efficacy of local anaesthetic injections versus ischemic compression via physical therapy for pain relief of abdominal wall trigger points in women with chronic pelvic pain.

METHODS:

We conducted a parallel group randomized trial including 30 women with chronic pelvic pain with abdominal wall trigger points. Subjects were randomly assigned to one of two intervention groups. One group received an injection of 2 mL 0.5 % lidocaine without a vasoconstrictor into a trigger point. In the other group, ischemic compression via physical therapy was administered at the trigger points three times, with each session lasting for 60 s, and a rest period of 30 s between applications. Both treatments were administered during one weekly session for four weeks. Our primary outcomes were satisfactory clinical response rates and percentages of pain relief. Our secondary outcomes are pain threshold and tolerance at the trigger points. All subjects were evaluated at baseline and 1, 4, and 12 weeks after the interventions. The study was conducted at a tertiary hospital that was associated with a university providing assistance predominantly to working class women who were treated by the public health system.

RESULTS:

Clinical response rates and pain relief were significantly better at 1, 4, and 12 weeks for those receiving local anaesthetic injections than ischemic compression via physical therapy. The pain relief of women treated with local anaesthetic injections progressively improved at 1, 4, and 12 weeks after intervention. In contrast, women treated with ischemic compression did not show considerable changes in pain relief after intervention. In the local anaesthetic injection group, pain threshold and tolerance improved with time in the absence of significant differences between groups.

CONCLUSION:

Lidocaine injection seems to be better for reducing the severity of chronic pelvic pain secondary to abdominal wall trigger points compared to ischemic compression via physical therapy.

TRIAL REGISTRATION:

ClinicalTrials.gov NCT00628355 . Date of registration: February 25, 2008.

PMID:26628263

8. VISCERA

Early nutrition and CD

Ann Nutr Metab. 2015;67 Suppl 2:43-50. doi: 10.1159/000440992. Epub 2015 Nov 26.

Primary Prevention of Celiac Disease: Environmental Factors with a Focus on Early Nutrition.

Chmielewska A¹, Pieścik-Lech M, Szajewska H, Shamir R.

Author information

Abstract

Celiac disease (CD) is a common autoimmune disorder caused by ingestion of gluten. When diagnosed, it should be treated with a lifelong, strict gluten-free diet. Early infant feeding practices have been suggested as a means of preventing CD. In the last few decades, observational data have suggested that breastfeeding, especially at the time of introducing gluten into the infant's diet, as well as the time and mode of gluten first being given to a child could prevent or delay the occurrence of CD. As a result, recommendations advised that it is prudent to avoid both early (<4 months) and late (>7 months) introduction of gluten, and to introduce gluten gradually while the infant is still being breastfed, as this may reduce the risk of celiac disease, type 1 diabetes mellitus, and wheat allergy. Recently, the results of two large randomized trials have shown that breastfeeding in general, breastfeeding during gluten introduction, and early or delayed gluten introduction do not influence the total risk of CD in genetically predisposed individuals. Introducing gluten at 4 versus 6 months in very small amounts, or at 6 versus 12 months, resulted in similar rates of CD in these children. Thus, early feeding practices seem to have no impact on the risk of developing CD during childhood. In children without the genetic predisposition, the age and mode of gluten introduction do not influence the risk anyway.

PMID:26605913

Whole grains/ refined and CR CA

Integr Cancer Ther. 2015 Dec 1. pii: 1534735415620010.

Consumption of Whole Grains, Refined Cereals, and Legumes and Its Association With Colorectal Cancer Among Jordanians.

Tayyem RF¹, Bawadi HA², Shehadah I³, Agraib LM¹, Al-Awwad NJ¹, Heath DD⁴, Bani-Hani KE¹.

Author information

Abstract

BACKGROUND:

The role of whole grains, refined cereals, and legumes in preventing or initiating colorectal cancer (CRC) is still uncertain. The aim of this study is to examine the possible association between the consumption of whole grains, refined cereals, and legumes and the risk of developing CRC among Jordanian population.

METHODS:

A validated food frequency questionnaire was used to collect dietary data with regard to intake of whole grains, refined cereals, and legumes. A total of 220 diagnosed CRC participants and 281 CRC-free control participants matched by age, gender, occupation, and marital status were recruited. Logistic regression was used to estimate the odds of developing CRC in relation to the consumption of different types of whole grains, refined cereals, and legumes.

RESULTS:

The odds ratio (OR) for developing CRC among cases consumed refined wheat bread at all meals was 3.1 compared with controls (95% CI: 1.2-7.9, $P_{\text{Trend}} = 0.001$); whereas the OR associated with whole wheat bread was 0.44 (95% CI: 0.22-0.92, $P_{\text{Trend}} = 0.001$). The statistical evaluation for daily consumption of rice suggested a direct association with the risk of developing CRC, OR = 3.0 (95% CI: 0.27-33.4, $P_{\text{Trend}} = 0.020$). Weekly consumption of macaroni was associated with CRC with OR of 2.4 (95% CI: 1.1-5.3, $P_{\text{Trend}} = 0.001$). The consumption of corn, bulgur, lentils, and peas suggested a protective trend, although the trend was not statistically significant.

CONCLUSION:

This study provides additional indicators of the protective role of whole grains and suggests a direct association between consumption of refined grains and higher possibility for developing CRC.

KEYWORDS: colorectal cancer; legumes; refined cereals; whole grains
PMID: 26631260

Celiac disease

J Clin Gastroenterol. 2016 Jan;50(1):33-9. doi: 10.1097/MCG.0000000000000285.

Celiac Disease in Women With Infertility: A Meta-Analysis.

Singh P¹, Arora S, Lal S, Strand TA, Makharia GK.

Author information

Abstract

BACKGROUND:

Celiac disease (CeD) is a systemic disease with manifestations not limited to small intestine. The data on association between CeD and infertility is contradictory. There are no recommendations for the screening of female patients with infertility for CeD.

AIM:

We conducted a meta-analysis to find out whether women with infertility are at higher risk of CeD.

METHODS:

Literature search was performed using the MeSH keywords "CeD," "gluten," and "infertility." Diagnosis of CeD was based on positive serology and biopsies showing villous atrophy. Data were extracted about CeD patients in 3 groups-women with infertility (including unexplained infertility), unexplained infertility, and controls. Pooled odds ratio (OR) and prevalence, with 95% confidence intervals (CI), were calculated.

RESULTS:

Of 105 relevant studies, 5 studies were included for calculation of pooled OR. Four additional studies, where data on controls were not available, were also considered for calculation of pooled prevalence of CeD. Women with infertility had 3.5 times higher odds of having CeD in comparison with control population (OR=3.5; 95% CI, 1.3-9; P<0.01). Similarly, women with "unexplained infertility" had 6 times higher odds of having CeD than controls (OR=6; 95% CI, 2.4-14.6). Of 884 women with infertility, 20 had CeD indicating a pooled prevalence of 2.3% (95% CI, 1.4-3.5). Of 623 women with "unexplained infertility," 20 had CeD. The pooled prevalence of CeD in women with unexplained infertility was 3.2 (95% CI, 2-4.9).

CONCLUSIONS:

CeD is more prevalent in women with "all-cause" infertility and "unexplained" infertility than that in general population.

PMID: 25564410

IBS and giardia

BMC Gastroenterol. 2015 Nov 19;15(1):164. doi: 10.1186/s12876-015-0393-0.

Perceived food intolerance and irritable bowel syndrome in a population 3 years after a giardiasis-outbreak: a historical cohort study.

Litleskare S¹, Wensaas KA², Eide GE^{3,4}, Hanevik K^{5,6}, Kahrs GE⁷, Langeland N⁸, Rortveit G^{9,10}.
Author information

Abstract

BACKGROUND:

Studies have shown an increased prevalence of irritable bowel syndrome (IBS) after acute gastroenteritis. Food as a precipitating and perpetuating factor in IBS has gained recent interest, but food intolerance following gastroenteritis is less investigated. The aims of this study were firstly, to compare perceived food intolerance in a group previously exposed to *Giardia lamblia* with a control group; secondly, to explore the relation with IBS status; and thirdly, to investigate associations with content of fermentable oligosaccharides, disaccharides, monosaccharides and polyols (FODMAP) in foods reported.

METHODS:

This is a historical cohort study with mailed questionnaire to 1252 *Giardia* exposed and a control cohort matched by gender and age. Differences between groups were investigated using bivariate and multivariate analyses.

RESULTS:

The questionnaire response rate in the exposed group was 65.3 % (817/1252) and in the control group 31.4 % (1128/3598). The adjusted odds ratio (OR) for perceived food intolerance for the exposed group was 2.00 with 95 % confidence interval (CI): 1.65 to 2.42, as compared with the control group. Perceived intolerance for dairy products was the most frequently reported intolerance, with an adjusted OR for the exposed of 1.95 (95 % CI: 1.51 to 2.51). Perceived intolerance for fatty foods, vegetables, fruit, cereals and alcohol was also significantly higher in the exposed group. The groups did not differ in perceived intolerance to spicy foods, coffee or soda. The association between exposure to *Giardia* infection and perceived food intolerance differed between the IBS group and the no-IBS group, but IBS was not a significant effect modifier for the association. Perceived intolerance for high FODMAP foods (adjusted OR 1.91) and low FODMAP foods (adjusted OR 1.55) was significantly associated with exposure status.

CONCLUSION:

Exposure to *Giardia* infection was associated with perceived food intolerance 3 years after giardiasis. IBS status did not alter the association between exposure status and perceived food intolerance. Perceived intolerance to high FODMAP foods and low FODMAP foods were both statistically significantly associated with exposure to *Giardia* infection.

PMID: 26585714

IBS mortality post-surgically

Increased postoperative mortality and complications among elderly patients with inflammatory bowel diseases: an analysis of the National Surgical Quality Improvement Program cohort

Clinical Gastroenterology and Hepatology , 12/07/2015 Bollegala N, et al.

The authors investigated postoperative mortality and the incidence of complications in elderly patients with inflammatory bowel disease (IBD). Elderly patients with IBD have substantially higher postoperative mortality and more complications than non-elderly patients with IBD. These increased risks should be considered when comparing risks of surgical vs medical therapy in this population.

Methods

- The authors identified patients who underwent major IBD-related abdominal surgery using the American College of Surgeons National Surgical Quality Improvement Program Participant Use Files, from 2005 through 2012.
- They compared mortality and postoperative complications between elderly patients (≥ 65 years old) and non-elderly patients (< 65 years old).

Results

- The authors identified 15,495 IBD patients who underwent surgery; of these, 1707 (11%) were elderly.
- Postoperative 30 day mortality was higher among elderly patients with Crohn's disease (CD) (4.2% vs 0.3% in non-elderly patients, $P < .001$) or ulcerative colitis (UC) (6.1% vs 0.7%, $P < .001$).
- After accounting for potential confounders, the adjusted odds ratio (aOR) of postoperative mortality in patients with CD was 11.67 (95% confidence interval [CI], 5.99–22.74) and in patients with UC was 4.39 (95% CI, 2.49–7.72).
- Postoperative complications were more common among elderly patients with CD (28.0% vs 19.4% in non-elderly patients, $P < .001$) or UC (39.3% vs 23.6%, $P < .001$).
- The aOR for any postoperative complication (excluding death) was 1.40 (95% CI, 1.16–1.69) in patients with CD and 1.74 for patients with UC (95% CI, 1.49–2.05).
- Elderly patients with UC were at increased risk for infectious complications, compared with non-elderly patients (aOR, 1.52; 95% CI, 1.27–1.82).
- The risk of postoperative venous thromboembolism was higher in elderly patients with CD (aOR, 1.68; 95% CI, 1.04–2.73).
- A higher proportion of elderly patients were still in the hospital more than 30 days after surgery (5.0% vs 1.8% for non-elderly patients, $P < .001$).

12 B. CERVICAL SURGERIES**Stretching after anterior neck surgery**

J Spinal Disord Tech. 2015 Dec;28(10):E565-70. doi: 10.1097/BSD.000000000000039.

Effect of Preoperative Tracheal Stretch Exercise on Anterior Cervical Spine Surgery: A Retrospective Study.

Zhang Y¹, Tian L, Zhao X, Wu Z, Wang L, Shi L, Cui G, Lei W.
Author information

Abstract

STUDY DESIGN:

We designed a retrospective study on preoperative tracheal stretch exercise (TSE) before anterior cervical spine surgery. The changes in vital signs before and during the surgery and the postoperative clinical outcome were recorded and compared with none treated patients.

OBJECTIVE:

The aim of this study was to evaluate whether the preoperative TSE is beneficial to the anterior cervical spine surgery and clinical outcome.

SUMMARY OF BACKGROUND DATA:

Anterior approach to the cervical spine surgery requires prolonged retraction of the trachea and esophagus. Although the surgery can be managed to complete, related potential complications may occur.

METHODS:

This is a retrospective study on 128 patients scheduled for anterior cervical spine surgery. Patients in the stretched group received preoperative TSE for 3 consecutive days before surgery, whereas the control group did not. During the preoperative exercise and the surgery, the changes in the vital signs were recorded and compared with the control group. The visual analogue scale, neck disability index (NDI), and the Clinical Symptom Score of the Japanese Orthopaedic Association (JOA) were also compared at different follow-up intervals, including 1, 3, and 6 months postoperation.

RESULTS:

The changes in blood pressure, heart rate, and respiratory and swallowing rates during the first exercise are significantly greater than those during the last exercise ($P<0.05$). During the surgery, changes in the vital signs in the exercise patients are also significantly smaller than those in control patients ($P<0.05$), excluding the blood oxygen saturation. The significant differences were also observed with the postoperative NDI and JOA scores between the exercise and control group at 6 months ($P<0.05$).

CONCLUSIONS:

Proper and systematic preoperative TSE has great significance for the success of anterior cervical spine surgery.

PMID: 24136047

13. CRANIUM/TMJ

Orthodontics/soft tissue changes with extractions

Eur J Orthod. 2015 Nov 29. pii: cjv083.

Soft-tissue changes in Class II malocclusion patients treated with extractions: a systematic review.

Janson G¹, Mendes LM², Junqueira CH², Garib DG².
Author information

Abstract

BACKGROUND:

Concerns about the effects caused by premolar extractions on the soft-tissue profile have motivated many investigations in different malocclusions.

OBJECTIVES:

To evaluate the cephalometric facial soft-tissue changes after orthodontic treatment with premolar extractions of Class II division 1 malocclusion subjects.

SEARCH METHODS:

Electronic databases PubMed, Web of Science, Embase, and Scopus were searched.

SELECTION CRITERIA:

Abstracts that appeared to fulfil the initial criteria (premolar extraction; cephalometric soft-tissue analyses/changes) were selected. The full-text original articles were then retrieved. Their references were also hand-searched.

DATA COLLECTION AND ANALYSIS:

By consensus of two researchers, the articles that fulfilled the selection criteria and quantified facial soft-tissue changes were individually analysed. Some methodological flaws were identified and some articles were excluded. The studies were rated according to the type of study, sample description and homogeneity, malocclusion severity, consideration of confounding factors, validity of the method, and statistical analyses.

RESULTS:

Heterogeneous information about malocclusion severity before treatment was found in most articles. Statistically significant soft-tissue changes reported included nasolabial angle (NLA) increasing from 2.4 to 5.40degrees in 2-premolar extraction protocol and from 1 to 6.84degrees in 4-premolar extraction protocol. Retrusion of the upper and lower lips were also verified, with less retraction of the lower lip in 2-premolar extraction groups.

CONCLUSIONS:

When Class II division 1 malocclusion is treated with premolar extractions, the NLA increases and the lips are retracted. However, there is less retraction of the lower lip in the 2-maxillary premolar extraction protocol.

PMID:26620831

TMJ Pain management

J Headache Pain. 2015 Dec;16(1):106. doi: 10.1186/s10194-015-0586-5. Epub 2015 Dec 7.

Reported concepts for the treatment modalities and pain management of temporomandibular disorders.

Wieckiewicz M¹, Boening K², Wiland P³, Shiau YY⁴, Paradowska-Stolarz A⁵.
Author information

Abstract

BACKGROUND:

Pain related to temporomandibular disorders (TMD) is a common problem in modern societies. The aim of the article is to present the concepts of TMD pain clinical management.

METHODS:

A survey was performed using the PubMed, SCOPUS and CINAHL databases for documents published between 1994 and 2014. The following search keywords were selected using MeSH terms of the National Library of Medicine in combination: TMD pain, TMD, TMJ, TMJ disorders, occlusal splint, TMD physiotherapy, TMJ rheumatoid disorders and TMJ surgery. Original articles and review papers which presented the clinical relevance and practical validity regarding the possibility of application in TMD management have been included. Authors have excluded articles without outstanding practical aspect and evidence-based background. A first selection was carried out by reviewing titles and abstracts of all articles found according to the criteria. After that the full texts of potentially suitable articles were assessed. In line with these criteria, among 11467 results the writers have included 66 papers.

RESULTS:

The most commonly reported conservative treatments are massage therapy and individually fabricated occlusal splints. In addition to massage, other popular methods include manual therapy and taping, warming/cooling of aching joints, and light and laser therapy. Drugs are also commonly used. In the most severe cases of the temporomandibular joint degeneration, surgical restoration of the joint is sometimes applied.

CONCLUSIONS:

The authors concluded that conservative treatment including counselling, exercises, occlusal splint therapy, massage, manual therapy and others should be considered as a first choice therapy for TMD pain because of their low risk of side effects. In the case of severe acute pain or chronic pain resulting from serious disorders, inflammation and/or degeneration pharmacotherapy, minimally invasive and invasive procedures should be considered.

KEYWORDS: Facial pain; Masticatory muscle pain; Temporomandibular disorders;
Temporomandibular joint disorders
PMID:26644030

14. HEADACHES

Migraine premonitory symptoms

Cephalalgia. 2015 Dec 6. pii: 0333102415620251.

Premonitory symptoms in migraine: A cross-sectional study in 2714 persons.

Laurell K¹, Artto V², Bendtsen L³, Hagen K⁴, Häggström J⁵, Linde M⁴, Söderström L⁶, Tronvik E⁷, Wessman M⁸, Zwart JA⁹, Kallela M².

Author information

Abstract

AIM:

To describe the frequency and number of premonitory symptoms (PS) in migraine, the co-occurrence of different PS, and their association with migraine-related factors.

METHODS:

In this cross-sectional study, a validated questionnaire was sent to Finnish migraine families between 2002 and 2013 to obtain data on 14 predefined PS, migraine diagnoses, demographic factors, and migraine characteristics. The estimated response rate was 80%.

RESULTS:

Out of 2714 persons, 2223 were diagnosed with migraine. Among these, 77% reported PS, with a mean number of 3.0 symptoms compared to 30% ($p < 0.001$) and 0.5 symptoms ($p < 0.001$) among 491 persons with non-migraine headaches. Yawning was the most commonly reported symptom (34%) among migraineurs. Females reported PS more frequently than males (81 versus 64%, $p < 0.001$) and experienced a higher number of different symptoms (mean 3.3 versus 1.8, $p < 0.001$). All measures of migraine severity were associated with a higher burden of PS. Light and sound sensitivity showed the highest co-occurrence ($\kappa = 0.51$, 95% CI 0.47-0.55). In a generalized linear model, age, gender, higher frequency, duration and intensity of headache, reduced working capacity, most aura symptoms, and associated symptoms of the headache phase were significantly associated with an increased in the number of PS.

CONCLUSION:

PS are experienced by a majority of migraineurs. More severe migraine is associated with a higher burden of PS. Since the material was not entirely representative of the general population of migraineurs, caution should be exercised in generalizing the results.

KEYWORDS: Headache; aura; migraine; premonitory symptoms

PMID: 26643378

HA'S

Cephalalgia. 2015 Dec 3. pii: 0333102415620908.

Pathophysiological targets for non-pharmacological treatment of migraine.

Coppola G¹, Di Lorenzo C², Serrao M³, Parisi V⁴, Schoenen J⁵, Pierelli F⁶.
Author information

Abstract

BACKGROUND:

Migraine is the most prevalent neurological disorder worldwide and ranked sixth among all diseases in years lived with disability. Overall preventive anti-migraine therapies have an effect in one patient out of two at the most, many of them being endowed with disabling adverse effects. No new disease-modifying drugs have come into clinical practice since the application to migraine of topiramate and botulinum toxin, the latter for its chronic form. There is thus clearly a need for more effective treatments that are devoid of, or have acceptable side effects. In recent years, scientific progress in migraine research has led to substantial changes in our understanding of the pathophysiology of migraine and paved the way for novel non-drug pathophysiological-targeted treatment strategies.

OVERVIEW:

Several such non-drug therapies have been tested in migraine, such as oxidative phosphorylation enhancers, diets and non-invasive central or peripheral neurostimulation. All of them are promising for preventive migraine treatment and are quasi-devoid of side effects. Their advantage is that they can in theory be selected for individual patients according to their pathophysiological profile and they can (and probably should) be combined with the classical pharmacological armamentarium.

CONCLUSION:

We will review here how knowledge of the functional anatomy and physiology of migraine mechanisms holds the key for more specific and effective non-pharmacological treatments.

KEYWORDS: Non-pharmacological treatment; diets; migraine pathophysiology; neurostimulation; nutraceuticals

PMID: 26637237

Head trauma and HA's

Cephalalgia. 2015 Dec 2. pii: 0333102415618948. [Epub ahead of print]

Headaches in patients with previous head injuries: A population-based historical cohort study (HUNT).

Hoem Nordhaug L¹, Vik A², Hagen K³, Stovner LJ³, Pedersen T⁴, Gravdahl GB⁵, Linde M³.
[Author information](#)

Abstract

BACKGROUND:

Headache attributed to head injury is claimed to be among the most common secondary headache disorders, yet available epidemiological evidence is scarce. We evaluated the prevalence of headache among individuals previously exposed to head injury by a comparison to an uninjured control group.

METHODS:

This population-based historical cohort study used data from hospital records on previous exposure to head injury linked to a large epidemiological survey with data on headache occurrence. Participants without head injury, according to hospital records, were used as controls. The head injuries were classified according to the Head Injury Severity Scale (HISS) and the International Classification of Headache Disorders (ICHD-3 beta). Binary logistic regression was performed to investigate the association between headache and head injury, controlling for potential confounders.

RESULTS:

The exposed group consisted of 940 individuals and the control group of 38,751 individuals. In the multivariate analyses, adjusting for age, sex, anxiety, depression and socioeconomic status, there were significant associations between mild head injury and any headache, migraine, chronic daily headache and medication overuse headache.

CONCLUSION:

Headache was more likely among individuals previously referred to a hospital for a mild head injury compared to uninjured controls.

KEYWORDS: Epidemiology; head injuries; headache; post-traumatic headache; traumatic brain injury

PMID: 26634833

Migraine and visual

Cephalalgia. 2015 Nov 25. pii: 0333102415618952.

Visual processing in migraine.

O'Hare L¹, Hibbard PB².

Author information

Abstract

BACKGROUND:

Migraine is a common neurological condition that often involves differences in visual processing. These sensory processing differences provide important information about the underlying causes of the condition, and for the development of treatments.

REVIEW OF PSYCHOPHYSICAL LITERATURE:

Psychophysical experiments have shown consistent impairments in contrast sensitivity, orientation acuity, and the perception of global form and motion. They have also established that the addition of task-irrelevant visual noise has a greater effect, and that surround suppression, masking and adaptation are all stronger in migraine.

THEORETICAL SIGNAL PROCESSING MODEL:

We propose utilising an established model of visual processing, based on signal processing theory, to account for the behavioural differences seen in migraine. This has the advantage of precision and clarity, and generating clear, falsifiable predictions.

CONCLUSION:

Increased effects of noise and differences in excitation and inhibition can account for the differences in migraine visual perception. Consolidating existing research and creating a unified, defined theoretical account is needed to better understand the disorder.

KEYWORDS: Migraine; signal processing model; vision perception

PMID:26611680

20 A. ROTATOR CUFF**PRP**

Am J Sports Med. 2015 Dec;43(12):2891-7. doi: 10.1177/0363546515608485. Epub 2015 Oct 23.

Platelet-Rich Plasma Injection With Arthroscopic Acromioplasty for Chronic Rotator Cuff Tendinopathy: A Randomized Controlled Trial.

Carr AJ¹, Murphy R², Dakin SG², Rombach I², Wheway K², Watkins B², Franklin SL².
Author information

Abstract

BACKGROUND:

Platelet-rich plasma (PRP) has been proposed to augment tendon healing through improving tissue structure during the initial repair phase.

PURPOSE:

To investigate both the clinical and tissue effects of the coapplication of PRP injection with arthroscopic acromioplasty (AA) in patients with chronic rotator cuff tendinopathy.

DESIGN:

Randomized controlled trial; Level of evidence, 1.

METHODS:

The study comprised 60 randomized patients diagnosed with rotator cuff tendinopathy (55% women) aged between 35 and 75 years. Patients were randomized to AA alone or in combination with an injection of autologous PRP into the subacromial bursa (AA + PRP). Efficacy of treatment was assessed by analysis of patient-reported outcomes up to 2 years after treatment (Oxford Shoulder Score [OSS]) and by analysis of tendon biopsy specimens taken 12 weeks after treatment.

RESULTS:

There was no significant difference in the OSS between AA alone and AA + PRP at any time point in the study. From 12 weeks onward, there was a significant increase in the OSS for both groups compared with their baseline scores ($P < .001$). Bonar scoring determined no significant change in tissue structure with the coapplication of PRP compared with surgery alone. The number of blood vessels and tendon cellularity were significantly decreased in tissue biopsy specimens taken from PRP-treated patients. The expression of p53-positive apoptotic cells increased after AA + PRP but decreased after AA alone.

CONCLUSION:

Arthroscopic acromioplasty significantly improves long-term clinical outcomes up to 2 years. The coapplication of PRP did not affect clinical outcomes. PRP significantly alters the tissue characteristics in tendons after surgery with reduced cellularity and vascularity and increased levels of apoptosis.

CLINICAL RELEVANCE:

The coapplication of PRP did not improve clinical outcomes and may have potential deleterious effects on healing tendons.

KEYWORDS: acromioplasty; platelet-rich plasma; rotator cuff; tendinopathy
PMID: 26498958

Impact on deltoid with RC surgery

Am J Sports Med. 2015 Dec;43(12):2927-34. doi: 10.1177/0363546515603063. Epub 2015 Sep 22.

Alterations of the Deltoid Muscle After Open Versus Arthroscopic Rotator Cuff Repair.

Cho NS¹, Cha SW¹, Rhee YG².

Author information

Abstract

BACKGROUND:

Open repair can be more useful than arthroscopic repair for immobile and severely retracted, large to massive rotator cuff tears. However, it is not known whether the deltoid muscle is altered after open repair or to what extent the deltoid origin remains detached after surgery.

PURPOSE:

To compare postoperative alterations of the deltoid muscle in open versus arthroscopic repair for severely retracted, large to massive rotator cuff tears.

STUDY DESIGN:

Case-control study; Level of evidence, 3.

METHODS:

Enrolled in this study were 135 patients who underwent surgical repair for severely retracted, large to massive rotator cuff tears and who had routine follow-up MRIs at least 6 months after surgery. Open repairs were performed in 56 cases and arthroscopic repairs in 79 cases. The detachment and thickness of the deltoid muscle at its proximal origin were recorded in 5 zones on MRI. The alterations of the deltoid muscle and postoperative integrity of the repaired rotator cuff were evaluated.

RESULTS:

Partial detachment of the deltoid occurred in 1 patient (1.8%) in the open group and in 2 patients (2.5%) in the arthroscopic group ($P = .80$). All the partial detachments occurred in zones 2 and 3. Attenuation of the proximal origin of the deltoid was found in 3 patients (5.4%) in the open group and in 4 patients (5.1%) in the arthroscopic group ($P = .87$). Atrophy of the deltoid muscle was shown in 3 patients (5.4%) in the open group and 4 patients (5.1%) in the arthroscopic group ($P = .61$). The retear rate of the repaired cuff was 30.4% (17/56) in the open group and 38.0% (30/79) in the arthroscopic group ($P = .74$).

CONCLUSION:

Between open and arthroscopic repair for severely retracted, large to massive rotator cuff tears, there was no significant difference in detachment of the deltoid origin and alterations of the deltoid muscle after repair. Postoperative alterations of the deltoid occurred in arthroscopic surgery as well as in open surgery. For immobile massive rotator cuff tear, open repair is an acceptable technique as long as the deltoid muscle is meticulously reattached after surgery.

KEYWORDS: arthroscopic; deltoid detachment; open; repair; rotator cuff tear; shoulder
PMID: 26394890

25. WRIST AND HAND**Injection not effective**

Drugs Aging. 2015 Dec 9.

Intra-Articular Therapies in the Treatment of Hand Osteoarthritis: A Systematic Literature Review.

Kroon FP¹, Rubio R², Schoones JW³, Kloppenburg M^{4,5}.

Author information

Abstract

BACKGROUND:

Local treatments to alleviate symptoms in hand osteoarthritis (OA) are preferred, especially in elderly patients with comorbidities. Therefore, we have summarized the benefits and harms of intra-articular (IA) therapies.

METHODS:

We conducted a systematic literature review until May 2015, including all controlled trials investigating efficacy or safety of any IA therapy in carpometacarpal (CMC) and interphalangeal (IP) OA compared with placebo or other treatments. Two authors independently selected trials and assessed risk of bias using the Cochrane tool. The main efficacy outcome was pain. We performed meta-analysis where appropriate.

RESULTS:

A total of 13 trials (864 patients) studying CMC (n = 11) and IP OA (n = 2) were included, comparing corticosteroids or hyaluronic acid (HA) versus placebo (n = 4 and n = 3), and corticosteroids versus HA (n = 6). Single studies investigated infliximab, dextrose, and different HAs. The overall risk of bias was unclear or high in most trials. Meta-analysis of two trials comparing corticosteroids with placebo in CMC OA showed no improvement in pain [mean difference -3.56, 95 % confidence interval (CI) -13.87 to 6.75, scale 0-100). HA also appeared not efficacious compared with placebo in CMC OA. One trial comparing corticosteroids with placebo in IP OA demonstrated significantly improved pain during movement. No convincing evidence for efficacy of corticosteroids or HA over the other or alternative therapies was found. Only local adverse events were reported. No specific IA therapy appeared more harmful than another.

CONCLUSION:

Despite a beneficial short-term safety profile, IA corticosteroids or HA do not appear more effective than placebo in CMC OA. The suggestion that IA corticosteroids might be efficacious in IP OA requires confirmation.

PMID:26650235

31. KNEE**Knee manip**

J Orthop Trauma. 2015 Dec;29(12):e464-8. doi: 10.1097/BOT.0000000000000395.

Manipulation Under Anesthesia: A Safe and Effective Treatment for Posttraumatic Arthrofibrosis of the Knee.

Sassoon AA¹, Adigweme OO, Langford J, Koval KJ, Haidukewych GJ.
[Author information](#)

Abstract

OBJECTIVES: This study investigates the results of closed manipulations performed under anesthesia (MUA) to evaluate whether it is an effective means to treat posttraumatic knee arthrofibrosis.

DESIGN: Retrospective review.

SETTING: Level I trauma center.

PATIENTS/PARTICIPANTS: Twenty-two patients with a mean age of 40 underwent closed MUA for posttraumatic knee arthrofibrosis. Injuries included fractures of the femur, tibia, and patella as well as ligamentous injuries and traumatic arthrotomies. The mean time from treatment to manipulation was 90 days. Mean follow-up after manipulation was 7 months.

INTERVENTION: Closed knee MUA.

OUTCOME MEASUREMENTS: Improvement of knee range of motion (ROM) arc was the primary outcome. Patient demographics were correlated with manipulation success using a 2-sample t test. A delay in manipulation of 90 days or greater was also evaluated in this fashion with regard to its role in predicting the benefit of MUA.

RESULTS: The mean premanipulation ROM arc was 59 ± 25 degrees. The mean intraoperative arc of motion, achieved at the time of the manipulation was 123 ± 14 degrees. No complications occurred during the MUA procedure. At the most recent follow-up, the mean ROM arc was 110 ± 19 degrees. Tobacco use, associated injuries, elevated body mass index, open fracture, and advanced age did not impact manipulation efficacy. Additionally, manipulations performed 90 days or more after surgical treatment provided a benefit equaling those performed more acutely ($P = 0.12$).

DISCUSSION: MUA is a safe and effective method to increase knee ROM in the setting of posttraumatic arthrofibrosis. Improvement in ROM was noted in all patients. A 90-day window between fracture fixation and manipulation did not impact ROM at final follow-up and may prevent fracture displacement during the MUA.

LEVEL OF EVIDENCE: Therapeutic Level IV. See Instructions for Authors for a complete description of levels of evidence.

PMID: 26313319

32 A. KNEE/ACL**Return to football**

Scand J Med Sci Sports. 2015 Nov 21. doi: 10.1111/sms.12588.

Factors associated with playing football after anterior cruciate ligament reconstruction in female football players.

Fältström A^{1,2}, Hägglund M², Kvist J².

Author information

Abstract

This study investigated whether player-related factors (demographic, personality, or psychological factors) or the characteristics of the anterior cruciate ligament (ACL) injury were associated with the return to playing football in females after ACL reconstruction (ACLR). We also compared current knee function, knee related quality of life and readiness to return to sport between females who returned to football and those who had not returned. Females who sustained a primary ACL rupture while playing football and underwent ACLR 6-36 months ago were eligible. Of the 460 contacted, 274 (60%) completed a battery of questionnaires, and 182 were included a median of 18 months (IQR 13) after ACLR. Of these, 94 (52%) returned to football and were currently playing, and 88 (48%) had not returned. Multiple logistic regression analysis identified two factors associated with returning to football: short time between injury and ACLR (0-3 months, OR 5.6; 3-12 months OR 4.7 vs reference group > 12 months) and high motivation. Current players showed higher ratings for current knee function, knee-related quality of life, and psychological readiness to return to sport ($P < 0.001$). Undergoing ACLR sooner after injury and high motivation to return to sports may impact a player's return to football after ACLR.

KEYWORDS: ACL; knee; return to sport; soccer

PMID:26589671

35. KNEE/TOTAL**Leg length**

Knee Surg Sports Traumatol Arthrosc. 2015 Nov 19.

The effect of leg length discrepancy on clinical outcome after TKA and identification of possible risk factors.

Kim SH¹, Rhee SM², Lim JW³, Lee HJ⁴.

Author information

Abstract

PURPOSE:

This study was investigated on the leg length discrepancy (LLD) after computer-assisted total knee arthroplasty (TKA), and its effects on the post-operative function and patient satisfaction. It is hypothesized that LLD after computer-assisted TKA would affect the clinical outcomes for knee scores.

METHODS:

A total of 148 cases were analysed retrospectively with a minimum of 2 years of follow-up. Eighty-one knees involved a <15-mm LLD, and 67 knees involved more than a 15-mm LLD. The radiographic outcomes, clinical outcomes, patients' satisfaction, and perception of LLD were also evaluated.

RESULTS:

There was a significant difference in the Knee Society function score and the score for the difficulty with ascending the stairs in the Western Ontario and McMaster Universities score between the groups. There was a statistically significant difference between the two groups in the results of their perception questionnaires, but no difference in the results of their satisfaction questionnaires. The odds ratio for the risk of post-operative LLD increased with the increased pre-operative LLD and the unilateral TKA.

CONCLUSIONS:

In conclusion, the functional outcomes of more than 15-mm post-operative LLD after computer-assisted TKA were lower than those of the <15-mm LLD. Thus, the reduced post-operative LLD should be considered to improve the functional outcomes of primary TKA. A careful treatment plan for degenerative arthritis should be considered and discussed with patients, especially in unilateral TKAs.

LEVEL OF EVIDENCE: IV.

KEYWORDS: Computer-assisted TKA; Leg length discrepancy; Post-operative function; Total knee arthroplasty
PMID: 26597818

Tourniquet use

Knee Surg Sports Traumatol Arthrosc. 2015 Nov 21.

Comparison of quadriceps muscle volume after unilateral total knee arthroplasty with and without tourniquet use.

Guler O¹, Mahirogullari M², Isyar M², Piskin A³, Yalcin S², Mutlu S⁴, Sahin B⁵.

Author information

Abstract

PURPOSE:

Determination of the effect of tourniquet use in total knee arthroplasty (TKA) on thigh and quadriceps muscle volume using magnetic resonance imaging (MRI).

METHODS:

A total of 148 knees of 74 patients (mean age 66.5 ± 4.8 years; female/male, 62/12) with bilateral primary varus gonarthrosis underwent unilateral TKA with a tourniquet (Group A, n = 35) or without a tourniquet (Group B, n = 39). The total thigh volume and connective, bone, and muscle tissue volumes were stereologically measured on preoperative and postoperative MRI. The Knee Society Score (KSS) and Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) score were calculated to evaluate functional outcomes.

RESULTS:

After TKA, the knees of patients in Group A exhibited a significant decrease in all tissue measurements, except bone tissue volume; however, the knees of patients in Group B exhibited no significant difference in tissue measurements. Although no difference was found between the operated and contralateral non-operated thighs (4076.9 and 4073.4 cm³, respectively) in Group B postoperatively at 1 month ($p > 0.05$), the operated thighs had lost 20 % of its volume in Group A postoperatively at 1 month ($p < 0.001$). A significant difference was found in all tissue measurements, except the connective and bone tissue volumes of the thigh between the operated and contralateral non-operated knees in Group A. No significant difference was identified between the operated and contralateral non-operated knees in Group B. The total WOMAC score was significantly higher, and the total KSS was significantly lower in Group A than in Group B during the postoperative follow-up period of 1-6 months ($p < 0.001$ for all) but not 12 months (n.s.).

CONCLUSION:

Tourniquet use in TKA decreases the thigh and quadriceps muscle volumes and postoperatively delays the recovery of knee function. Therefore, caution should be exercised for tourniquet use during TKA in daily clinical practice and using alternative methods for tourniquet application in preventing intraoperative blood loss.

LEVEL OF EVIDENCE:

III.

KEYWORDS: Atrophy; Magnetic resonance imaging; Quadriceps muscle; Quantitative analysis; Total knee arthroplasty; Total knee replacement; Tourniquet use

PMID: 26590567

37. OSTEOARTHRITIS/KNEE**HA in OA****Efficacy and Safety of Hyaluronic Acid in the Management of Osteoarthritis: Evidence from Real-Life Setting Trials and Surveys**

Emmanuel Maheu, M François Rannou, MD, PhD Jean-Yves Reginster, MD, PhD

The European Society for Clinical and Economic Aspects of Osteoporosis and Osteoarthritis (ESCEO) treatment algorithm recommends intra-articular (IA) hyaluronic acid (HA) for management of knee osteoarthritis (OA) as second-line treatment in patients who remain symptomatic despite use of non-steroidal anti-inflammatory drugs (NSAIDs). This recommendation is based upon accumulating evidence that IA HA provides a significant benefit in knee OA. There is good evidence that IA HA injections reduce pain and increase function in knee OA, and the benefits are longer lasting as compared with IA corticosteroids. Evidence from real-life studies of repeat courses of IA HA demonstrates an improvement in pain or function lasting up to 40 months (12 months after the last injection cycle), a reduction in use of concomitant analgesia by up to 50%, and suggests that there may be a delay in the need for total knee replacement (TKR) of around 2 years. The clinical benefit of IA HA on knee OA may be 2-fold: (i) mechanical viscosupplementation of the joint (allowing lubrication and shock absorption), and (ii) the re-establishment of joint homeostasis through induction of endogenous HA production, which continues long after the exogenous injection has left the joint. The magnitude of the clinical effect may be different for different HA products, but this has not been proven so far and requires further investigation. IA HA injections are generally considered to be safe, although a slightly higher number of cases of local reactions and post-injection non-septic arthritis has been reported with high molecular weight cross-linked HAs. The use of IA HA in knee OA patients with mild-moderate disease, and for more severe patients wishing to delay TKR surgery, is recommended by the ESCEO task force. Further investigation into the OA patient types most likely to benefit from IA HA is warranted. Viscosupplementation with IA HA is a safe and effective component of the multi-modal management of knee OA

43. HALLUX VALGUS

Biomechanics and HV

Arthritis Care Res (Hoboken). 2015 Dec 7. doi: 10.1002/acr.22743.

Biomechanical Effects of Prefabricated Foot Orthoses and Rocker-Sole Footwear in Individuals With First Metatarsophalangeal Joint Osteoarthritis.

Menz HB^{1,2}, Auhl M^{1,2}, Tan JM^{1,2}, Levinger P^{1,3}, Roddy E⁴, Munteanu SE^{1,2}.

[Author information](#)

Abstract

Objective To evaluate the effects of prefabricated foot orthoses and rocker-sole footwear on spatiotemporal parameters, hip and knee kinematics and plantar pressures in people with first metatarsophalangeal joint osteoarthritis (1st MTPJ OA).

Design 102 people with 1st MTPJ OA were randomly allocated to receive prefabricated foot orthoses or rocker-sole footwear. The immediate biomechanical effects of the interventions (compared to usual footwear) were examined using a wearable sensor motion analysis system and an in-shoe plantar pressure measurement system.

Results Spatiotemporal/kinematic and plantar pressure data were available from 88 and 87 participants, respectively. The orthoses had minimal effect on spatiotemporal or kinematic parameters, while the rocker-sole footwear resulted in reduced cadence, percentage of the gait cycle spent in stance phase, and sagittal plane hip range of motion. The orthoses increased peak pressure under the midfoot and lesser toes. Both interventions significantly reduced peak pressure under the 1st MTPJ, and the rocker-sole shoes also reduced peak pressure under the 2nd - 5th MTPJs and heel. When the effects of the orthoses and rocker-sole shoes were directly compared, there was no difference in peak pressure under the hallux, 1st MTPJ or heel, however the rocker-sole shoes exhibited lower peak pressure under the lesser toes, 2nd to 5th MTPJs and midfoot.

Conclusion Prefabricated foot orthoses and rocker-sole footwear are effective at reducing peak pressure under the 1st MTPJ in people with 1st MTPJ OA, but achieve this through different mechanisms. Further research is required to determine whether these biomechanical changes result in improvements in symptoms. This article is protected by copyright. All rights reserved.

KEYWORDS: biomechanics; foot; footwear; orthoses; osteoarthritis

PMID: 26640157

Shoes and HV

Arthritis Care Res (Hoboken). 2015 Dec 7. doi: 10.1002/acr.22750.

Effectiveness of Foot Orthoses Versus Rocker-Sole Footwear for First Metatarsophalangeal Joint Osteoarthritis: Randomized Trial.

Menz HB^{1,2}, Auhl M^{1,2}, Tan JM^{1,2}, Levinger P^{1,3}, Roddy E⁴, Munteanu SE^{1,2}.

Author information

Abstract

Objective To compare the effectiveness of prefabricated foot orthoses to rocker-sole footwear in reducing foot pain in people with first metatarsophalangeal joint osteoarthritis (1st MTPJ OA).

Design Participants (n=102) with 1st MTPJ OA were randomly allocated to receive individualized, prefabricated foot orthoses or rocker-sole footwear. The primary outcome measure was the pain subscale on the Foot Health Status Questionnaire (FHSQ) at 12 weeks. Secondary outcome measures included the function, footwear and general foot health subscales of the FHSQ, the Foot Function Index, severity of pain and stiffness at the 1st MTPJ, perception of global improvement, general health status, use of rescue medication and co-interventions to relieve pain, physical activity and the frequency of self-reported adverse events.

Results The FHSQ pain subscale scores improved in both groups, but no statistically significant difference between the groups was observed (adjusted mean difference 2.05 points, 95%CI -3.61 to 7.71, p=0.477). However, the footwear group exhibited lower adherence (mean [SD] total hours worn 287 [193] versus 448 [234], p<0.001), were less likely to report global improvement in symptoms (39 versus 62%, relative risk [RR] 0.63, 95% confidence interval [CI] 0.41 to 0.99, p=0.043), and were more likely to experience adverse events (39 versus 16%, RR 2.47, 95%CI 1.12 to 5.44, p=0.024) compared to the orthoses group.

Conclusion Prefabricated foot orthoses and rocker-sole footwear are similarly effective at reducing foot pain in people with 1st MTPJ OA. However, prefabricated foot orthoses may be the intervention of choice due to greater adherence and fewer associated adverse events. This article is protected by copyright. All rights reserved.

KEYWORDS: biomechanics; foot; footwear; orthoses; osteoarthritis 26638878

44. RHUMATOID ARTHRITIS

Gout and Glycemic index

Arthritis Rheumatol. 2015 Dec 4. doi: 10.1002/art.39527.

Effects of Lowering Glycemic Index of Dietary Carbohydrate on Plasma Uric Acid: The OmniCarb Randomized Clinical Trial.

Juraschek SP^{1,2}, McAdams-Demarco M^{1,2}, Gelber AC^{1,2}, Sacks FM^{1,2}, Appel LJ^{1,2}, White K^{1,2}, Miller ER 3rd^{1,2}.

[Author information](#)

Abstract

OBJECTIVE:

The effects of carbohydrates on plasma uric acid levels are controversial. We determined the individual and combined effects of carbohydrate quality (glycemic index, GI) and quantity (proportion of total daily energy, %carb) on uric acid.

METHODS:

We conducted a randomized, crossover feeding trial in overweight or obese adults without cardiovascular disease (N=163). Participants were fed each of four diets over 5-week periods separated by 2-week washout periods. Body weight was kept constant. The four diets were: high GI (GI \geq 65) with high %carb (58% kcal), low GI (GI \leq 45) with low %carb (40% kcal), low GI with high %carb; and high GI with low %carb. Plasma uric acid was measured at baseline and after each feeding period for comparison between the 4 diets.

RESULTS:

Study participants were 52% women and 50% non-Hispanic black with a mean age of 52.6 years and a mean uric acid of 4.7 (SD, 1.2) mg/dL. Reducing GI lowered uric acid when the %carb was low (-0.24 mg/dL; P <0.001) or high (-0.17 mg/dL; P <0.001). Reducing the %carb marginally increased uric acid only when GI was high (P = 0.05). The combined effect of lowering GI and increasing the %carb was -0.27 mg/dL (P <0.001). This effect was observed even after adjustment for concurrent changes in kidney function, insulin sensitivity, and products of glycolysis.

CONCLUSIONS:

Reducing GI lowers uric acid. Future studies should examine whether reducing GI can prevent gout onset or flares. This article is protected by copyright. All rights reserved.

KEYWORDS: carbohydrate; diet; fat; glycemic index; gout; macronutrient; protein; trial; uric acid

PMID:26636424

45 A. MANUAL THERAPY LUMBAR & GENERAL**LBP results in three different countries/chiropractic**

BMC Musculoskelet Disord. 2015 Nov 26;16(1):367. doi: 10.1186/s12891-015-0824-7.

Low back pain patients in Sweden, Denmark and the UK share similar characteristics and outcomes: a cross-national comparison of prospective cohort studies.

Kongsted A^{1,2}, Davies L³, Axen I^{4,5}.

Author information

Abstract

BACKGROUND:

Low back pain (LBP) is the world's leading cause of disability and yet poorly understood. Cross-national comparisons may motivate hypotheses about outcomes being condition-specific or related to cultural differences and can inform whether observations from one country may be generalised to another. This analysis of data from three cohort studies explored whether characteristics and outcomes differed between LBP patients visiting chiropractors in Sweden, Denmark and the UK.

METHODS:

LBP patients completed a baseline questionnaire and were followed up after 3, 5, 12 and 26 weeks. Outcomes were LBP intensity (0-10 scales) and LBP frequency (0-7 days the previous week). Cohort differences were tested in mixed models accounting for repeated measures. It was investigated if any differences were explained by different baseline characteristics, and interaction terms between baseline factors and nations tested if strength of prognostic factors differed across countries.

RESULTS:

The study sample consisted of 262, 947 and 453 patients from Sweden, Denmark and the UK respectively. Patient characteristics were largely similar across cohorts although some statistically significant differences were observed. The clinical course followed almost identical patterns across nations and small observed differences were not present after adjusting for baseline factors. The associations of LBP intensity and episode duration with outcome differed in strength between countries.

CONCLUSIONS:

Chiropractic patients with low back pain had similar characteristics and clinical course across three Northern European countries. It is unlikely that culture have substantially different impacts on the course of LBP in these countries and the results support knowledge transfer between the investigated countries.

PMID: 26612459

45 B. MANUAL THERAPY CERVICAL

PT for headaches

Physical therapy for headaches

Cephalalgia, 12/11/2015 Fernandezde-las-Penas C, et al. –

The current review provides an updated discussion on what is supported by current scientific evidence about physical therapies for tension-type headache (TTH), migraine, and cervicogenic headache (CeH), and which gaps there still may be in the authors' understanding of the interventions. It seems that multimodal approaches including different interventions are more effective for patients with TTH, migraine and CeH.

Methods

- PubMed, MEDLINE, EMBASE, AMED, CINAHL, EBSCO, Cochrane Database of Systematic Reviews, Cochrane Collaboration Trials Register, PEDro, and SCOPUS were searched from their inception through March 2015.

Results

- Several physical therapies including spinal joint manipulation/mobilization, soft tissue interventions, therapeutic exercises and needling therapies are proposed to be effective for the management of headaches.
- Current evidence has shown that the effectiveness of these interventions will depend on proper clinical reasoning since not all interventions are equally effective for all headache pain conditions.
- For instance, evidence of physical therapy in migraine is more controversial than in TTH, since migraine pathogenesis involves activation of sub-cortical structures and the trigemino-vascular system, whereas pathogenesis of TTH is more associated with musculoskeletal disorders, e.g. muscle pain

53. CORE**Asymmetrical Multifidus**

Skeletal Radiol. 2016 Jan;45(1):73-7. doi: 10.1007/s00256-015-2252-z. Epub 2015 Sep 16.

Lumbar multifidus muscle changes in unilateral lumbar disc herniation using magnetic resonance imaging.

Altinkaya N¹, Cekinmez M².

Author information

Abstract

OBJECTIVE:

To assess multifidus muscle asymmetry using the cross-sectional area (CSA) and perpendicular distance of the multifidus muscle to the lamina (MLD) measurements in patients with nerve compression due to lumbosacral disc hernia.

MATERIALS AND METHODS:

In total, 122 patients who underwent microdiscectomy for unilateral radiculopathy caused by disc herniation, diagnosed by magnetic resonance imaging (MRI), were evaluated retrospectively. Posterolateral or foraminal disc herniation at only one disc level, the L3-4, L4-L5, or L5-S1 region, was confirmed using MRI. Subjects were divided by symptom duration: 1-30 days, (group A), 31-90 days (group B), and > 90 days (group C). There were 48 cases in group A, 26 in group B, and 48 in group C.

RESULTS:

In groups A, B, and C, the median MLD differed significantly between the diseased and normal sides ($P < 0.05$). The MLD increased on the diseased side with symptom duration by lumbar disc herniation. The diseased side MLD was 5.1, 6.7, and 7.6 mm in groups A, B, and C, respectively ($P < 0.05$). The cut-off values for the MLD measurements were 5.3 mm (sensitivity = 62.3 %, specificity = 55.5 %; $P < 0.05$). In groups A, B, and C, the median CSA of the multifidus muscle was not significantly different between the diseased and the normal side ($P > 0.05$).

CONCLUSIONS:

The MLD measurement correlated significantly with multifidus asymmetry in patients with lumbar disc herniation.

KEYWORDS: Lumbar disc herniation; MRI; Multifidus
PMID:26377578

54. POSTURE**FHP H/a and laptop use****Comparative analysis of head-tilt and forward head position during laptop use between females with postural induced headache and healthy controls**

Sarah Mingels, M PT Wim Dankaerts, PhD Ludo van Etten, PhD Herbert Thijs, PhD
Marita Granitzer, PhD

To compare 1) maximum manually induced head-protraction, head-tilt and forward head position and 2) the evolution of head-tilt and forward head position during a laptop-task between a headache- and control-group.

Methods

Angles for maximum head-protraction, head-tilt and forward head position of 12 female students with postural induced headache and 12 female healthy controls were calculated at baseline and while performing a laptop-task.

Results

The headache-group demonstrated an increased passive head-protraction of 22.30% compared to the control-group. The ratio of forward head position during habitual sitting to the maximum head-protraction differed significantly ($p = 0.046$) between headache-group (1.4 ± 0.4) and the control-group (1.1 ± 0.2). The headache-group showed a biphasic forward head position and head-tilt profile. These profiles differed significantly ($p < 0.05$) between groups and were negatively correlated ($rE = - 0.927$).

Conclusion

The headache-group showed a larger passive head-protraction with a habitual forward head-position further located from the end-range. During the laptop-task forward head position and head-tilt behaved biphasically with a more static forward head position and a more dynamic head-tilt.

Keywords: Postural induced headache, forward head position, head-tilt, laptop

55. SCOLIOSIS

Natural history

J Am Acad Orthop Surg. 2015 Dec;23(12):714-23. doi: 10.5435/JAAOS-D-14-00037. Epub 2015 Oct 28.

Natural History of Adolescent Idiopathic Scoliosis in Skeletally Mature Patients: A Critical Review.

Agabegi SS, Kazemi N, Sturm PF, Mehlman CT.

Abstract

The surgical treatment of adolescent idiopathic scoliosis is dependent on several factors, including curve type and magnitude, degree of curve progression, skeletal maturity, and other considerations, such as pain and cosmesis. The most common indication for surgery is curve progression. Most authors agree that surgical treatment should be considered in skeletally mature patients with curves $>50^\circ$ because of the risk of progression into adulthood. Furthermore, most authors would agree that curves measuring $<40^\circ$ to 45° in skeletally mature patients should be observed. When a skeletally mature patient with a curve measuring between 45° to 55° is presenting to an orthopaedic surgeon, it is not uncommon that the patient has no pain, no progression, and no imbalance. The generally accepted belief has been that curves that reach 50° are likely to progress into adulthood, progressing at a rate of 1° per year, based largely on the Iowa studies. However, the level of evidence for this is relatively weak, and the existing literature is equivocal in supporting the practice of performing surgery on these patients.

KEYWORDS: adolescent; idiopathic; natural history; scoliosis
PMID: 26510624

56. ATHLETICS**Stress related growth**

Scand J Med Sci Sports. 2015 Nov 21. doi: 10.1111/sms.12579.

Stress-related growth following sport injury: Examining the applicability of the organismic valuing theory.

Wadey R¹, Podlog L², Galli N², Mellalieu SD³.

Author information

Abstract

This study explored the applicability of organismic valuing theory (OVT) to stress-related growth (SRG) following sport injury. Specifically, the direct and indirect relationships between need satisfaction (i.e., autonomy, competence, and relatedness), SRG, and subjective well-being (i.e., positive affect) were examined. Previously injured athletes (n = 520), ranging from 18 to 59 years of age ($M_{\text{age}} = 23.3$ years; standard deviation = 6.5), completed three measures: needs satisfaction scale, stress-related growth scale, and positive affect scale. Structural equation modeling with maximum likelihood estimation revealed a significant positive relationship between competence and relatedness and SRG, and between SRG and positive affect. In line with OVT, SRG was also found to mediate the relationship between need satisfaction (competence and relatedness) and subjective well-being. The findings offer preliminary support for the applicability of OVT in aiding our understanding of the antecedents and consequences of SRG. Future avenues of research are discussed, together with recommended methodologies to further extend and refine knowledge and understanding of the phenomenon of SRG following sport injury.

KEYWORDS: Adversity; autonomy; competence; relatedness; well-being
PMID: 26589377

Impact of sports

Am J Phys Med Rehabil. 2015 Dec;94(12):1026-34. doi: 10.1097/PHM.0000000000000263.

Investigation of the Impact of Sports, Exercise, and Recreation Participation on Psychosocial Outcomes in a Population of Veterans with Disabilities: A Cross-sectional Study.

Laferrier JZ¹, Teodorski E, Cooper RA.

Author information

Abstract

OBJECTIVE:

The aim of this study was to investigate possible effects that participation in sports, exercise, and recreation may have on self-esteem and quality-of-life in service members/veterans with disabilities.

DESIGN:

Two hundred twenty service members/veterans with disabilities who were participants in one of three annual adaptive sporting events took part in this cross-sectional study. Variables of interest were years of sport, exercise, and recreation participation since the onset of disability as well as the type of activity they engaged in. Main outcome measures were self-esteem and quality-of-life.

RESULTS:

A positive relationship was found between participant quality-of-life and the number of years spent participating in sports, exercise, and recreation since the onset of their disability. A significant difference was found between pre-event and postevent self-esteem scores. A significant difference was also found in self-esteem scores between the levels of years of participation in sports, exercise, and recreation when averaged across activity type. Finally, there were significant differences found on self-esteem scores between the levels of type of activity averaged across years of participation.

CONCLUSIONS:

Our results indicate that participation in sports, exercise, and recreation has a positive influence on self-esteem and quality-of-life in individuals with disabilities.

PMID:25768065

Pitchers Gird

J Am Acad Orthop Surg. 2015 Dec;23(12):789-96. doi: 10.5435/JAAOS-D-15-00292.

The Relationship Between Glenohumeral Internal Rotational Deficits, Total Range of Motion, and Shoulder Strength in Professional Baseball Pitchers.

Amin NH, Ryan J, Fening SD, Soloff L, Schickendantz MS, Jones M.

Abstract

INTRODUCTION:

Although the lack of internal rotation (IR) and total range of motion (TRM) has been identified as a significant contributing factor of shoulder injuries, our goal was to determine whether a relationship exists between glenohumeral internal rotational deficits (GIRD), TRM, and shoulder strength in professional baseball pitchers. Our hypothesis was that GIRD with TRM differences within 5° will not lead to decreased shoulder strength; however, a shoulder with >5° of TRM difference with GIRD will lead to decreased shoulder strength.

METHODS:

The study was conducted over a 4-year period and included 193 major and minor league pitchers. All measurements were taken prior to the pitcher's engaging in any baseball-related activities on the day of measurements. The entire measurement arc of passive range of motion (PROM), including external rotation (ER) and IR, was defined as the TRM. GIRD was defined as a loss of 25° or more of IR of the throwing shoulder compared with the nonthrowing shoulder. Shoulder strength measurements were obtained using a validated digital dynamometer with the arm in 90° of abduction and with the arm in 110° of flexion and 30° of abduction measured in pounds.

RESULTS:

The IR deficit was 5.89° (SD = 9.24°) in non-GIRD pitchers and 25.52° (SD = 4.35°) in GIRD pitchers (P > 0.001). The ER change was 124.08° (SD = 11.21°) in non-GIRD pitchers and 127.79° (SD = 9.15°) in GIRD pitchers. The total arc of motion was 179.54° (SD = 14.53°) in non-GIRD pitchers and 171.93° (SD = 12.34°) in GIRD pitchers (P > 0.001). The strength in the shoulder, measured with the arm in 90° of abduction, was 29.61 lb (SD = 4.76 lb) in non-GIRD pitchers versus 28.65 lb (SD = 4.81 lb) in GIRD pitchers. The strength with the arm in 110° of flexion and 30° of abduction was 29.43 lb (SD = 5.01 lb) in non-GIRD pitchers versus 28.13 lb (SD = 4.76 lb) in pitchers with GIRD (P = 0.043). Deficiencies in total arc of motion (P < 0.001) and shoulder strength (P < 0.043) were significantly associated with GIRD.

DISCUSSION:

In our evaluation of 193 pitchers examined during their preseason physical examinations, we identified a statistically significant association between decreased total arc of motion, decreased shoulder strength, and GIRD.

KEYWORDS: GIRD; abduction strength; internal rotation deficits; shoulder injury; total arc of motion

PMID:26609146

Pitchers subscapularis injuries

Skeletal Radiol. 2016 Jan;45(1):41-7. doi: 10.1007/s00256-015-2239-9. Epub 2015 Aug 25.

Throwing-related injuries of the subscapularis in professional baseball players.

Polster JM¹, Lynch TS², Bullen JA³, Soloff L⁴, Ilaslan H⁵, Subhas N⁵, Schickendantz MS⁶.
Author information

Abstract

OBJECTIVE:

To describe the MR appearance of a series of throwing-related injuries to the subscapularis muscle-tendon complex among baseball players.

MATERIALS AND METHODS:

A retrospective review of MR scans of the shoulder in players from 1 professional baseball organization over the course of 5 years was performed to identify cases with findings suggestive of subscapularis injury. These findings were graded and the medical record was reviewed to assess clinical findings, treatment, and follow-up. Preinjury baseline measurements of arm external rotation at 90° of abduction were compared to measurements from a noninjured cohort to evaluate whether this measure is a risk factor for injury.

RESULTS:

A total of 133 MR scans of the shoulder were evaluated. Eleven of the scans demonstrated signal changes suggesting subscapularis injury; 10 of these 11 patients had clinical findings supporting a diagnosis of throwing-related subscapularis strain. There were four grade 1, four grade 2, and two grade 3 injuries. All injuries occurred in the inferior half of the subscapularis at the myotendinous junction. Risk of subscapularis injury increased with lower levels of dominant arm external rotation (odds ratio, 1.12; 95 % CI, 1.07-1.21; $p < 0.001$). A threshold of dominant arm external rotation of $<106^\circ$ demonstrated sensitivity of 0.700 (95 % CI, 0.392-0.897) and specificity of 0.951 (95 % CI, 0.888-0.982) for subscapularis injury.

CONCLUSION:

Throwing-related subscapularis injuries occur in the inferior half of the muscle at the myotendinous junction. Our data suggest that there is an increased risk of these injuries with lower levels of dominant arm external rotation.

KEYWORDS: Baseball; Magnetic resonance; Muscle; Subscapularis; Throwing
PMID:26305059

57. GAIT**Insoles**

Med Sci Sports Exerc. 2015 Nov 24.

Sensory Enhancing Insoles Modify Gait During Inclined Treadmill Walking With Load.

Miranda DL¹, Hsu WH, Petersen K, Fitzgibbons S, Niemi J, Lesniewski-Laas N, Walsh CJ.
Author information

Abstract

INTRODUCTION:

Inclined walking while carrying a loaded backpack induces fatigue, which may destabilize gait and lead to injury. Stochastic resonance (SR) technology has been used to stabilize spatiotemporal gait characteristics of elderly individuals but has not been tested on healthy recreational athletes. Herein, we determined if sustained vigorous walking on an inclined surface while carrying a load de-stabilizes gait and if SR has a further effect.

METHODS:

Participants were fitted with a backpack weighing 30% of their body weight and asked to walk at a constant self-selected pace while their feet were tracked using an optical motion capture system. Their shoes were fitted with SR insoles that were set at 90% of the participant's sensory threshold. The treadmill incline was increased every five minutes until volitional exhaustion after which the treadmill was returned to a level grade. SR stimulation was turned ON and OFF in a pairwise random fashion throughout the protocol. Spatiotemporal gait characteristics were calculated when SR was ON and OFF for the BASELINE period, the MAX perceived exertion period, and the POST period.

RESULTS:

Vigorous activity increases variability in the rhythmic stepping (stride time, stride length) and balance control (double support time, stride width) mechanisms of gait. Overall, SR increased stride width variability by 9% before, during, and after a fatiguing exercise.

CONCLUSION:

The increased stride time and stride length variability may compromise the stability of gait during and after vigorous walking. However, participants may compensate by increasing double support time and stride width variability to maintain their stability under these adverse conditions. Furthermore, applying SR resulted in an additional increase of stride width variability and may potentially improve balance before, during, and after adverse walking conditions.

PMID:26606273

58. RUNNING**Restricted motion impacts GR forces****The effects of dorso-lumbar motion restriction on the ground reaction force components during running**

Joseph J. Morley, DC, PhD Edward Traum, DC

The effects of restricting dorso-lumbar spine mobility on ground reaction forces in runners was measured and assessed.

Methods

A semi-rigid cast was used to restrict spinal motion during running. Subjects ran across a force platform at 3.6 metres/second, planting the right foot on the platform. Data was collected from ten running trials with the cast and ten without the cast and analysed.

Results

Casted running showed that the initial vertical heel strike maximum was increased ($p < .02$) and that the anterior-posterior deceleration impulse was increased ($p < .01$). The maximum vertical ground reaction force was decreased in casted running ($p < .01$), as was the anterior-posterior acceleration impulse ($p < .02$). There was a trend for increased medial-lateral impulse in the uncasted state, but this was not statistically significant.

Conclusions

Spinal mobility and fascia contribute to load transfer between joints and body segments. Experimentally restricting spinal motion during running results in measurable and repeatable alterations in ground reaction force components. Alterations in load transfer due to decreased spinal motion may be a factor contributing to selected injuries in runners.

Keywords: Spinal mobility restriction, casting, ground reaction force components

59. PAIN**Happiness and less pain**

Am J Phys Med Rehabil. 2015 Dec;94(12):1041-51. doi: 10.1097/PHM.0000000000000294.

Happiness, Pain Intensity, Pain Interference, and Distress in Individuals with Physical Disabilities.

Müller R¹, Terrill AL, Jensen MP, Molton IR, Ravesloot C, Ipsen C.
Author information

Abstract

OBJECTIVES:

The aim of this study was to examine how the construct of happiness is related to pain intensity, pain interference, and distress in individuals with physical disabilities.

DESIGN:

This study involves cross-sectional analyses of 471 individuals with a variety of health conditions reporting at least mild pain.

RESULTS:

The first hypothesis that happiness mediates the relationship between pain intensity and two outcomes, pain interference and distress, was not supported. The second hypothesis was supported by a good fitting model ($\chi^2_{10} = 12.83$, $P = 0.23$, root-mean-square error of approximation = 0.025) and indicated that pain intensity significantly mediated the effect of happiness on pain interference (indirect effect: $\beta = -0.13$, $P < 0.001$) and on distress (indirect effect: $\beta = 0.10$, $P = 0.01$). Happiness showed a significant direct effect on pain intensity ($\beta = -0.20$, $P < 0.001$). A third model exploring the happiness components meaning, pleasure, and engagement fitted well ($\chi^2_4 = 9.65$, $P = 0.05$, root-mean-square error of approximation = 0.055). Pain intensity acted as a significant mediator but only mediated the effect of meaning on pain interference (indirect effect: $\beta = -0.07$, $P = 0.05$) and on distress (indirect effect via pain interference: $\beta = -0.04$, $P = 0.05$). Only meaning ($\beta = -0.10$, $P = 0.05$), but neither pleasure nor engagement, had a significant direct effect on pain intensity.

CONCLUSIONS:

Participants who reported greater happiness reported lower pain interference and distress through happiness' effects on pain intensity. Experiencing meaning and purpose in life seems to be most closely (and negatively) associated with pain intensity, pain interference, and distress. Findings from this study can lay the groundwork for intervention studies to better understand how to more effectively decrease pain intensity, pain interference, and distress.

PMID: 25802959

62 A. NUTRITION/VITAMINS**Inflammatory diet and health**

Eur J Nutr. 2015 Dec 7.

Inflammatory potential of diet and all-cause, cardiovascular, and cancer mortality in National Health and Nutrition Examination Survey III Study.

Shivappa N^{1,2}, Steck SE^{3,4}, Hussey JR⁴, Ma Y⁵, Hebert JR^{3,4}.

Author information

Abstract

BACKGROUND:

Various dietary components have been studied in relation to overall mortality; however, little is known about the relationship between the inflammatory potential of overall diet and mortality.

MATERIALS AND METHODS:

We examined the association between the dietary inflammatory index (DII) and mortality in the National Health and Nutrition Examination Survey III follow-up study. The DII was computed from baseline dietary intake assessed using 24-h dietary recalls (1988-1994). Mortality was determined from the National Death Index records through 2006. Cox proportional hazards regression was used to estimate hazard ratios (HRs) and 95 % confidence interval (95 % CI). During the follow-up, 2795 deaths were identified, including 1233 due to cardiovascular disease (CVD), and 615 due to cancer, 158 of which were due to digestive-tract cancers.

RESULTS:

Multivariate Cox proportional hazards regression analyses, adjusting for age, race, diabetes status, hypertension, physical activity, body mass index, poverty index, and smoking, revealed positive associations between higher DII scores and mortality. Comparing subjects in DII tertile 3 versus tertile 1, significant associations were noted for all-cause mortality (HR_{Tertile3vs1} 1.34; 95 % CI 1.19-1.51, P_{trend} < 0.0001), CVD mortality (HR_{Tertile3vs1} 1.46; 95 % CI 1.18-1.81, P_{trend} = 0.0006), cancer mortality (HR_{Tertile3vs1} 1.46; 95 % CI 1.10-1.96, P_{trend} = 0.01), and digestive-tract cancer mortality (HR_{Tertile3vs1} 2.10; 95 % CI 1.15-3.84, P_{trend} = 0.03).

CONCLUSION:

These results indicate that a pro-inflammatory diet, as indicated by higher DII scores, was associated with higher risk of all-cause, CVD, and cancer mortality.

KEYWORDS:

Dietary inflammatory index; Mortality; NHANES III

PMID: 26644215

Nutrition and colon CA

Eur J Cancer. 2015 Dec;51(18):2820-32. doi: 10.1016/j.ejca.2015.09.010. Epub 2015 Nov 14.

Landscape of dietary factors associated with risk of gastric cancer: A systematic review and dose-response meta-analysis of prospective cohort studies.

Fang X¹, Wei J², He X², An P³, Wang H², Jiang L², Shao D², Liang H⁴, Li Y⁵, Wang F⁶, Min J⁷.
Author information

Abstract

BACKGROUND:

The associations between dietary factors and gastric cancer risk have been analysed by many studies, but with inconclusive results. We conducted a meta-analysis of prospective studies to systematically investigate the associations.

METHODS:

Relevant studies were identified through searching Medline, Embase, and Web of Science up to June 30, 2015. We included prospective cohort studies of intake of dietary factors with risk estimates and 95% confidence intervals for gastric cancer.

RESULTS:

Seventy-six prospective cohort studies were eligible and included in the analysis. We ascertained 32,758 gastric cancer cases out of 6,316,385 participants in relations to intake of 67 dietary factors, covering a wide ranging of vegetables, fruit, meat, fish, salt, alcohol, tea, coffee, and nutrients, during 3.3 to 30 years of follow-up. Evidence from this study indicates that consumption of total fruit and white vegetables, but not total vegetables, was inversely associated with gastric cancer risk. Both fruit and white vegetables are rich sources of vitamin C, which showed significant protective effect against gastric cancer by our analysis too. Furthermore, we found concordant positive associations between high-salt foods and gastric cancer risk. In addition, a strong effect of alcohol consumption, particularly beer and liquor but not wine, on gastric cancer risk was observed compared with nondrinkers. Dose-response analysis indicated that risk of gastric cancer was increased by 12% per 5 g/day increment of dietary salt intake or 5% per 10 g/day increment of alcohol consumption, and that a 100 g/day increment of fruit consumption was inversely associated with 5% reduction of risk.

CONCLUSION:

This study provides comprehensive and strong evidence that there are a number of protective and risk factors for gastric cancer in diet. Our findings may have significant public health implications with regard to prevention of gastric cancer and provide insights into future cohort studies and the design of related clinical trials.

KEYWORDS: Alcohol; Dose-response; Gastric cancer; Meta-analysis; Nutrition; Prospective; Salt
PMID:26589974

63. PHARMACOLOGY

Opioid use and antidepressants

Psychiatr Q. 2015 Dec 8.

Combined Use of Opioids and Antidepressants in the Treatment of Pain: A Review of Veterans Health Administration Data for Patients with Pain Both With and Without Co-morbid Depression.

[Sellinger JJ](#)^{1,2}, [Sofuoglu M](#)^{3,4,5}, [Kerns RD](#)^{3,4}, [Rosenheck RA](#)^{3,4,5}.
[Author information](#)

Abstract

Musculoskeletal pain is prevalent among Veterans treated within the Veterans Health Administration (VHA). Depression is highly co-prevalent, and antidepressants are increasingly being used for psychiatric and analgesic benefit. The current study examined prescribing patterns of antidepressants and opioids in the context of musculoskeletal pain using a national VHA database. All Veterans diagnosed with musculoskeletal pain who attended at least one appointment through the VHA during Fiscal Year 2012 were dichotomized based on the presence or absence of a depression diagnosis. We compared the proportion in each group that were prescribed antidepressants to the entire sample and repeated this comparison along a continuum of the number of annual opioid prescriptions received (ranging in five categories from no opioids up to >20 scripts). Of the 5.1 million Veterans seen, 19.1 % were diagnosed with musculoskeletal pain, of whom, 27.2 % were diagnosed with major depressive disorder. Antidepressants were prescribed to 78.41 % of patients with musculoskeletal pain and depression, compared to 20.23 % of those without depression. For both groups, antidepressant use increased linearly as annual opioid fills increased. Across the categories of opioid use, patients with depression showed a 13.98 % increase in antidepressant use, compared to a 33.97 % increase in the non-depressed group.

Results suggest that antidepressants are frequently prescribed to patients with musculoskeletal pain who are using opioids, consistent with multi-modal pharmacotherapy. Increasing use of antidepressants in conjunction with escalating opioid prescribing, particularly in the absence of diagnosed depression, suggests that antidepressants are being used in both groups to complement opioid therapy.

KEYWORDS: Antidepressants; Depression; Opioids; Pain management
PMID:26646578