

2. LBP

Neuropathic

J Clin Rheumatol. 2018 Sep;24(6):324-327. doi: 10.1097/RHU.0000000000000711.

Neuropathic Pain Component in Axial Spondyloarthritis and the Influence on Disease Burden.

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OBJECTIVES:

Patients with nonradiographic axial spondyloarthritis (nr-axSpA) and radiographic axSpA/ankylosing spondylitis (AS) have similar burden of disease; however, the potential influence of pain characteristics including the neuropathic pain (NeP) component has not been assessed yet. The aim of this study was first to assess frequency of NeP component in patients with axSpA and second to assess the potential influence of NeP on burden of disease.

METHODS:

Adult patients who met the Assessment of SpondyloArthritis International Society classification criteria for axSpA were consecutively recruited. Patients were evaluated using the Douleur Neuropathique en 4 Questions interview and painDETECT questionnaire and subgrouped as patients with and without NeP.

RESULTS:

Neuropathic pain component was present in 31.4% of patients with axSpA categorized according to Douleur Neuropathique en 4 Questions (31.6% in nr-axSpA vs 31.3% in AS, $P = 0.964$) and in 33.5% of patients categorized according to painDETECT (35.1% in nr-axSpA vs 32.8% in AS, $P = 0.762$). Pain characteristics were quite similar between patients with nr-axSpA and AS. Women tended to have more frequent NeP. Patients with NeP component had significantly higher scores in visual analog scale of pain, patient and physician global, fatigue, Bath Ankylosing Spondylitis Disease Activity Index, Ankylosing Spondylitis Disease Activity Score using C-reactive protein, depression, anxiety scores, and physical functions; poorer quality of life (QoL); and similar frequency of fibromyalgia compared with patients without NeP component. In multivariable analysis, having NeP was associated with QoL measures (Ankylosing Spondylitis Quality of Life and Short-Form 36 physical component score) and visual analog scale of fatigue.

CONCLUSIONS:

Nearly one third of patients with axSpA may have NeP component regardless of having nr-axSpA or AS. Neuropathic pain component may contribute worsened QoL and poorer patient-reported outcome data and should be kept in mind during patient evaluation.

7. PELVIC ORGANS/WOMAN'S HEALTH

Underwear type and sperm count

Journal Summaries in Obstetrics & Gynecology

Type of underwear worn and markers of testicular function among men attending a fertility center

Human Reproduction — Mínguez-Alarcón L, et al. | August 31, 2018

Researchers investigated the association between self-reported type of underwear worn and markers of testicular function among men at a fertility center. Outcomes of this study revealed higher sperm concentration and total count, and lower FSH levels among men who reported most frequently wearing boxers vs men who did not.

Methods

- In this cross-sectional study, researchers included 656 male partners of couples seeking infertility treatment at a fertility center (2000–2017).
- Via a take-home questionnaire, they collected self-reported information on type of underwear worn.
- They followed World Health Organization guidelines to analyze semen samples.
- Reproductive hormone levels and sperm DNA damage were assessed using enzyme immunoassays and neutral comet assays, respectively.
- The association between underwear type and testicular function was evaluated via fitting linear regression models, adjusting for covariates and accounting for multiple semen samples.

Results

- Median (interquartile range) age of the men was 35.5 (32.0, 39.3) years and BMI was 26.3 (24.4, 29.9) kg/m².
- Boxers were reported to be frequently worn by about half of the men (53%; n = 345).
- Compared to men who reported not primarily wearing boxers, men who reported primarily wearing boxers had a 25% higher sperm concentration (95% CI = 7, 31%), 17% higher total count (95% CI = 0, 28%) and 14% lower serum FSH levels (95% CI = -27, -1%).
- They identified an inverse correlation of sperm concentration and total count with serum FSH.
- Furthermore, after adjustment for serum FSH, attenuation of the differences in sperm concentration and total count according to type of underwear was noted.
- They observed no associations with other measured reproductive outcomes.

Second hand smoke affect ovary's

Journal Summaries in Obstetrics & Gynecology

Childhood secondhand tobacco smoke exposure and ovarian reserve among females seeking fertility care, and interaction with N-acetyltransferase 2 (NAT2) genotype

Annals of Epidemiology — Ali T, et al. | August 29, 2018

Researchers investigated how childhood secondhand tobacco smoke (SHS) exposure influences ovarian reserve among nonsmoking women seeking fertility care. They also sought for a possible interaction with NAT2 genotype, given NAT2 enzyme is important in the metabolism and detoxification of xenobiotic substances found in tobacco smoke. A total of 101 nonsmoking women of reproductive age were inquired about demography and SHS exposure. Childhood SHS exposure inside the home was quantified as never, rarely, often or daily. They reported a higher odds of diminished ovarian reserve among participants who were ever exposed to childhood SHS inside the home vs no childhood SHS exposure. No effect modification by NAT2 was evident.

8. VISCERA

IBS and allergic disease

Clinical Allergy – Research Article

Association between Allergic Diseases and Irritable Bowel Syndrome: A Retrospective Study

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Int Arch Allergy Immunol
<https://doi.org/10.1159/000489611>

Background: The relationship between allergic disease and irritable bowel syndrome (IBS) is poorly understood. We aimed to investigate the potential association as well as the underlying immunological mechanisms.

Methods: A retrospective case-control study of 108 atopic patients from among outpatients in an allergy clinic (allergic rhinitis [AR], $n = 49$; chronic urticaria [CU], $n = 59$) and 74 controls from among ward companions was conducted from November 2016 to March 2017. The detection rates and related gastrointestinal (GI) symptoms of IBS, as well as immunological indices, were calculated.

Results: CU patients had a trend of increase in the detection of IBS compared to controls (OR = 4.846; 95% CI 0.967–24.279, $p = 0.077$). Loose stools (OR = 2.406; 95% CI 1.075–5.386, $p < 0.05$) and viscous stools (OR = 2.665; 95% CI 1.250–5.682, $p < 0.05$) were more common in CU patients. Atopic patients positive for serum total immunoglobulin E (IgE) (OR = 3.379; 95% CI 1.088–10.498, $p < 0.05$) or house dust mite (HDM)-specific IgE (OR = 3.640; 95% CI 1.228–10.790, $p < 0.05$) were more likely to have abdominal bloating. Besides, a positive association between levels of total IgE and severity of abdominal bloating was observed ($p < 0.05$). An HDM-specific IgE-positive reaction was independently associated with abdominal bloating in atopic patients ($p < 0.05$).

Conclusions: Allergic disease has a clear clinical association with IBS with more frequent and severe symptoms of IBS. CU patients have a tendency to suffer from IBS, usually with diarrhea. Serum total IgE and HDM-specific IgE are positively correlated with GI symptoms in atopic patients.

IBS

Published in Gastroenterology Journal Scan / Review · August 24, 2018

Best Practices for Managing Functional Gastrointestinal Symptoms in Inflammatory Bowel Disease Clinical Gastroenterology and Hepatology

DESCRIPTION The purpose of this clinical practice update review is to describe key principles in the diagnosis and management of functional gastrointestinal (GI) symptoms in patients with inflammatory bowel disease (IBD).

METHODS The evidence and best practices summarized in this manuscript are based on relevant scientific publications, systematic reviews, and expert opinion where applicable.

BEST PRACTICE ADVICE 1: A stepwise approach to rule-out ongoing inflammatory activity should be followed in IBD patients with persistent GI symptoms (measurement of fecal calprotectin, endoscopy with biopsy, cross-sectional imaging).

BEST PRACTICE ADVICE 2: In those patients with indeterminate fecal calprotectin levels and mild symptoms, clinicians may consider serial calprotectin monitoring to facilitate anticipatory management.

BEST PRACTICE ADVICE 3: Anatomic abnormalities or structural complications should be considered in patients with obstructive symptoms including abdominal distention, pain, nausea and vomiting, obstipation or constipation.

BEST PRACTICE ADVICE 4: Alternative pathophysiologic mechanisms should be considered and evaluated (small intestinal bacterial overgrowth, bile acid diarrhea, carbohydrate intolerance, chronic pancreatitis) based on predominant symptom patterns.

BEST PRACTICE ADVICE 5: A low FODMAP diet may be offered for management of functional GI symptoms in IBD with careful attention to nutritional adequacy.

BEST PRACTICE ADVICE 6: Psychological therapies (cognitive behavioural therapy, hypnotherapy, mindfulness therapy) should be considered in IBD patients with functional symptoms.

BEST PRACTICE ADVICE 7: Osmotic and stimulant laxative should be offered to IBD patients with chronic constipation.

BEST PRACTICE ADVICE 8: Hypomotility agents or bile-acid sequestrants may be used for chronic diarrhea in quiescent IBD.

BEST PRACTICE ADVICE 9: Antispasmodics, neuropathic-directed agents, and anti-depressants should be used for functional pain in IBD while use of opiates should be avoided.

BEST PRACTICE ADVICE 10: Probiotics may be considered for treatment of functional symptoms in IBD.

BEST PRACTICE ADVICE 11: Pelvic floor therapy should be offered to IBD patients with evidence of an underlying defecatory disorder.

BEST PRACTICE ADVICE 12: Until further evidence is available, fecal microbiota transplant should not be offered for treatment of functional GI symptoms in IBD.

BEST PRACTICE ADVICE 13: Physical exercise should be encourage in IBD patients with functional GI symptoms.

BEST PRACTICE ADVICE 14: Until further evidence is available, complementary and alternative therapies should not be routinely offered for functional symptoms in IBD.

Acid reflux**Airway inflammation and injury in children with prevalent weakly acidic gastroesophageal refluxes**

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DOI: <https://doi.org/10.1016/j.rmed.2018.08.011>

Background

In children with gastroesophageal reflux (GER) both acid refluxes (AR) and weakly acidic refluxes (WAR) can induce respiratory symptoms (RS).

Methods

To characterize the airway inflammation in children with more prevalent WAR or AR (defined according a ROC curve analysis), we performed a 3 year-retrospective review of the medical records of patients who underwent fiberoptic bronchoscopy for difficult-to treat chronic/recurrent respiratory symptoms and who had a positive multiple intraluminal esophageal impedance (pH/MII) monitoring.

Results

In the 13 WAR and 11 AR children, the number of cells recovered by bronchoalveolar lavage (BAL) was similar [$0.78 (0.29-1.28) \times 10^6$ cells, and $1.05 (0.68-1.64) \times 10^6$ cells, respectively] ($P = 0.22$). A neutrophilic alveolitis and an elevated lipid-laden-macrophage (LLM) index were detected in both groups: no differences were found in neutrophils and lymphocyte percentages or in LLM index between WAR and AR children. In contrast, higher BAL epithelial cell proportions were seen in WAR [$10.4 (4.85-23.45)$], as compared to AR [$2.5 (1.25-7.25)$] children ($P = 0.0045$), suggesting greater airway damage in the formers. In the whole patient population a significant correlation was found between the proportions of BAL epithelial cells and the number of WAR events ($r = 0.43$; $P = 0.037$). Finally, elevated BAL concentrations of substance P and of pepsin were observed, not statistically different in the WAR and AR groups.

Conclusions

In this patient population, WAR events can be associated with a significant airway inflammation and injury that, because of the biochemical mechanisms involved, are likely not completely preventable and/or counteracted by anti-acid treatments.

Arterial stiffness and adolescent smoking and alcohol

Early vascular damage from smoking and alcohol in teenage years: the ALSPAC study

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European Heart Journal, ehy524, <https://doi.org/10.1093/eurheartj/ehy524>

Aims

To determine the impact of smoking and alcohol exposure during adolescence on arterial stiffness at 17 years.

Methods and results

Smoking and alcohol use were assessed by questionnaires at 13, 15, and 17 years in 1266 participants (425 males and 841 females) from the ALSPAC study. Smoking status (smokers and non-smoker) and intensity ('high' ≥ 100 , 'moderate' 20–99, and 'low or never' < 20 cigarettes in lifetime) were ascertained. Participants were classified by frequency (low or high) and intensity of drinking [light (LI < 2), medium (MI 3–9), and heavy (HI > 10 drinks on a typical drinking day)]. Carotid to femoral pulse wave velocity (PWV) was assessed at 17 years [mean \pm standard deviation and/or mean difference (95% confidence intervals)]. Current smokers had higher PWV compared with non-smokers ($P = 0.003$). Higher smoking exposure was associated with higher PWV compared with non-smokers [5.81 ± 0.725 vs. 5.71 ± 0.677 m/s, mean adjusted difference 0.211 (0.087–0.334) m/s, $P = 0.001$]. Participants who stopped smoking had similar PWV to never smokers ($P = 0.160$). High-intensity drinkers had increased PWV [HI 5.85 ± 0.8 vs. LI 5.67 ± 0.604 m/s, mean adjusted difference 0.266 (0.055–0.476) m/s, $P = 0.013$]. There was an additive effect of smoking intensity and alcohol intensity, so that 'high' smokers who were also HI drinkers had higher PWV compared with never-smokers and LI drinkers [mean adjusted increase 0.603 (0.229–0.978) m/s, $P = 0.002$].

Conclusion

Smoking exposure even at low levels and intensity of alcohol use were associated individually and together with increased arterial stiffness. Public health strategies need to prevent adoption of these habits in adolescence to preserve or restore arterial health.

Sudden cardiac death in adolescents

Outcomes of Cardiac Screening in Adolescent Soccer Players

- Aneil Malhotra, M.B., B.Chir., Ph.D., Guido Pieles, M.B., B.S., Ph.D.,

BACKGROUND

Reports on the incidence and causes of sudden cardiac death among young athletes have relied largely on estimated rates of participation and varied methods of reporting. We sought to investigate the incidence and causes of sudden cardiac death among adolescent soccer players in the United Kingdom.

METHODS

From 1996 through 2016, we screened 11,168 adolescent athletes with a mean (\pm SD) age of 16.4 \pm 1.2 years (95% of whom were male) in the English Football Association (FA) cardiac screening program, which consisted of a health questionnaire, physical examination, electrocardiography, and echocardiography. The FA registry was interrogated to identify sudden cardiac deaths, which were confirmed with autopsy reports.

RESULTS

During screening, 42 athletes (0.38%) were found to have cardiac disorders that are associated with sudden cardiac death. A further 225 athletes (2%) with congenital or valvular abnormalities were identified. After screening, there were 23 deaths from any cause, of which 8 (35%) were sudden deaths attributed to cardiac disease. Cardiomyopathy accounted for 7 of 8 sudden cardiac deaths (88%). Six athletes (75%) with sudden cardiac death had had normal cardiac screening results. The mean time between screening and sudden cardiac death was 6.8 years. On the basis of a total of 118,351 person-years, the incidence of sudden cardiac death among previously screened adolescent soccer players was 1 per 14,794 person-years (6.8 per 100,000 athletes).

CONCLUSIONS

Diseases that are associated with sudden cardiac death were identified in 0.38% of adolescent soccer players in a cohort that underwent cardiovascular screening. The incidence of sudden cardiac death was 1 per 14,794 person-years, or 6.8 per 100,000 athletes; most of these deaths were due to cardiomyopathies that had not been detected on screening. (Funded by the English Football Association and others.)

Proton pump and CV disease

Use of proton pump inhibitors and risk of ischemic events in the general population

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DOI: <https://doi.org/10.1016/j.atherosclerosis.2018.08.035>

Highlights

- Efficacy and good tolerability profile of PPIs can lead to overutilization.
- Little is known about potential cardiovascular adverse effects of PPIs.
- PPI use is associated with an increased risk of hospitalization for CV events.
- The increased risk was observed even in patients not treated with antithrombotics.
- PPI use should be critically considered, especially when is not strictly necessary.

Abstract**Background and aims**

A potential increased risk of cardiovascular events has been suggested for proton pump inhibitors (PPIs), the most commonly prescribed drugs for the management of upper gastrointestinal disorders. We aimed to estimate the risk of hospitalization for cardio/cerebrovascular (CV) events in a cohort of incident PPI users.

Methods

A nested case-control study was carried out using regional healthcare utilization databases. For each case (hospitalization for non-haemorrhagic CV event), up-to-five controls randomly selected from the cohort were matched by gender, age at cohort entry, and index date. Exposure was estimated as recency of therapy (current, recent and past users) and number of days covered. Adjusted conditional logistic regression was used to estimate the association between exposure and outcome.

Results

Among new PPI users, we identified 17,832 cases and 89,160 controls (males 64.9%; mean age 58.9 years). Cases showed a significantly higher prevalence of use of drugs for diabetes, hypertension and hypercholesterolemia than controls. Risk of CV events was significantly higher for current (OR 1.61; 95%CI 1.55–1.68) and recent users (OR 1.15; 95%CI 1.06–1.26) compared to past users. Analogous results were found stratifying for cardiovascular (OR_{current} 1.71; 95%CI 1.63–1.81) and cerebrovascular events (OR_{current} 1.43; 95%CI 1.34–1.54). The increased risk was confirmed in subgroups by antithrombotic, statin use, or exposure duration. The same analysis for H2-antagonists use showed no significant results.

Conclusions

In primary care setting, PPI use was independently associated with increased risk of first-time cardiovascular event, consistent with the evidence that PPIs adversely impact vascular function, underlying the need to promote appropriate prescribing of these drugs.

Coffee and wine and alcohol liver disease**Coffee and wine consumption is associated with reduced mortality from alcoholic liver disease: Follow-up of 219 279 Norwegian men and women aged 30-67 years**

Aage Tverdal Svetlana Skurtveit Randi Selmer Ronny Myhre Dag Thelle

DOI: <https://doi.org/10.1016/j.annepidem.2018.08.010>**Purpose**

To study the association between coffee and alcoholic beverage consumption and alcoholic liver disease mortality

Methods

In total 219 279 men and women 30-67 years of age attended cardiovascular screening in Norway from 1994 to 2003. Linkage to the Cause of Death Registry identified 93 deaths from alcoholic liver disease. Coffee consumption was categorized in 4 levels: 0, 1-4, 5-8, and ≥ 9 cups/day and alcohol consumption as 0, >0 - <1.0 , 1.0 - <2.0 , and ≥ 2.0 units/day, for beer, wine, liquor and total alcohol consumption.

Results

The hazard ratios per one category of consumption were 2.06 (95% confidence interval 1.62-2.61), 0.68 (0.46-1.00), and 2.54 (1.92-3.36) for beer, wine and liquor, respectively. Stratification at 5 cups/day (the mean) revealed a stronger association between alcohol consumption and alcoholic liver disease at less than 5 versus 5 or more cups/day. With <5 cups/day, 0 alcohol units/day as reference, the hazard ratio reached to 25.5 (9.2-70.5) for ≥ 2 units/day, whereas with ≥ 5 cups/day it reached 5.8 (1.9-17.9) for ≥ 2 units/day. A test for interaction was significant ($p=0.01$).

Conclusions

Coffee and wine consumption were inversely associated with alcoholic liver disease death. Total alcohol consumption was adversely associated with alcoholic liver disease mortality and the strength of the association varied with the level of coffee consumption.

13 B. TMJ/ORAL

Periodontitis and CV disease

Journal Summaries in Dentistry

Periodontitis and Platelet Count: A new potential link with cardiovascular and other systemic inflammatory diseases

Journal of Clinical Periodontology — Romandini M, et al. | August 24, 2018

Experts conducted a cross-sectional study to see if periodontitis had any relationship to platelet count in a representative sample of the South Korea population.

Findings suggested an independent association of periodontitis, especially when severe, with a considerable increase in platelet count which, at least in part, is explained by an increase in the systemic inflammation. In subjects over 60 years old, females, non-smokers and those with normal HDL blood levels, the association between severe periodontitis and platelet was emphasized.

13 C. AIRWAYS/SWALLOWING/SPEECH

sleep

Journal Summaries in Family Medicine**b Journal Summaries in Family Medicine****The association of sleep duration extremes and self-reported cardiovascular disease among U.S. adults: Results from the National Health and Nutrition Examination Survey 2013-2014**

Annals of Epidemiology — Beverly CM, et al. | August 29, 2018

Researchers analyzed data for 4,906 men and women aged 20-74 years from the 2013-2014 National Health and Nutrition Examination Survey (NHANES), to test the premise that short and long sleep duration would be associated with increased odds of cardiovascular disease (CVD), given heart disease is the leading cause of death in U.S. adults. Findings demonstrated the association between extremes of sleep duration and elevated odds of self-reported CVD diagnosis in this nationally representative sample of U.S. adults, this link was not statistically significant after multivariable adjustment. As adequate sleep duration is only one aspect of a healthy sleep profile, other sleep factors should be evaluated and might help explain the relationship with CVD.

Journal Summaries in Family Medicine**Association between sleep duration and ideal cardiovascular health in U.S. adults, National Health and Nutrition Examination Survey 2013-2014**

Annals of Epidemiology — Cash RE, et al. | August 29, 2018

Via this cross-sectional, secondary data analysis of the nationally-representative National Health and Nutrition Examination Survey (NHANES) 2013-2014 cycle, researchers evaluated the link between sleep duration and ideal cardiovascular health (CVH), presuming that very short (<6h) and long (>8h) sleep durations were related to decreased odds of ideal CVH in U.S. adults. They determined the number of ideal CVH components, dichotomized as ideal (5-7 components) or not ideal (0-4 components), using the American Heart Association's Life's Simple 7 metrics for CVH. Participants were subjects aged 20-74 without prevalent cardiovascular disease. The adjusted odds (aOR, 95% CI) of ideal CVH related to sleep duration (<6, 6, 7 [referent], 8, >8 hours) were estimated by using survey-weighted multivariable logistic regression. They found that, 22% of the population reported ideal CVH. Findings revealed the association of very short and long sleep durations vs average sleep duration, with decreased odds of ideal CVH among U.S. adults.

14. HEADACHES

Cluster

High-Volume Anesthetic Suboccipital Nerve Blocks for Treatment Refractory Chronic Cluster Headache With Long-Term Efficacy Data: An Observational Case Series Study

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<https://doi.org/10.1111/head.13394>

Objective

To determine the efficacy of high-volume anesthetic suboccipital nerve blocks (HVSON) for chronic cluster headache (CCH) and to define consistency of response over long-term use.

Background

There are studies showing efficacy of greater occipital and suboccipital nerve block injections for CCH and also their possible use as a preventive treatment modality. There are scant data about the long-term efficacy of repetitive greater occipital and suboccipital nerve injections in CCH. HVSON has not been studied for CH.

Methods

This was an open label, observational, case series study. Patients with CCH seen at a dedicated headache clinic over a 7-year time period and injected on at least 2 separate occasions were used for analysis. All were deemed medicinal treatment refractory. HVSON consisted of 9 mL 1% lidocaine and 1 mL triamcinolone 40 mg/mL injected on the side of CH.

Results

Ten CCH patients were retrospectively studied. Range of mean average response to HVSON (all patients had complete pain freedom) was 1.5–31 weeks (longest: 44 weeks in 2 patients). Only one patient did not respond; 2 patients had 1.5–2 weeks of response; the remainder had at least 4 weeks of response. The mean average duration of effect was 10.3 weeks in the responders. Five patients were injected serially for 2–4 years (30x, 17x, 15x, 10x and 3x, respectively) with a consistent response of 6 weeks, 4 weeks, 12 weeks, 4 weeks, and 31 weeks, respectively, after each injection. Response duration was very reliable per individual patient. All 5 patients felt HVSON was effective as a preventive treatment. Smoking history did not appear to alter treatment response (8/10 were chronic current smokers and 7/8 responded to HVSON). The one patient who received the most injections developed avascular necrosis of the hip; the remainder of the subjects had no adverse events.

Conclusion

HVSON from this open label study appears to be effective in the preventive treatment of medicinal refractory CCH and shows consistent response over long-term use with high rates of pain freedom.

22 B. INSTABILITY

Bankart

Risk Factors for the Postoperative Recurrence of Instability After Arthroscopic Bankart Repair in Athletes

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Background: Several risk factors for the postoperative recurrence of instability after arthroscopic Bankart repair have been reported, but there have been few detailed investigations of the specific risk factors in relation to the type of sport.

Purpose: This study investigated the postoperative recurrence of instability after arthroscopic Bankart repair without additional reinforcement procedures in competitive athletes, including athletes with a large glenoid defect. The purpose of this study was to investigate risk factors related to the postoperative recurrence of instability in athletes.

Study Design: Case-control study; Level of evidence, 3.

Methods:

A total of 115 athletes (123 shoulders) were classified into 5 groups according to type of sport: rugby (41 shoulders), American football (32 shoulders), other collision sports (18 shoulders), contact sports (15 shoulders), and overhead sports (17 shoulders). First, the recurrence rate in each sporting category was investigated, with 113 shoulders followed up for a minimum of 2 years. Then, factors related to postoperative recurrence were investigated in relation to the type of sport.

Results:

Postoperative recurrence of instability was noted in 23 of 113 shoulders (20.4%). The recurrence rate was 33.3% in rugby, 17.2% in American football, 11.1% in other collision sports, 14.3% in contact sports, and 12.5% in overhead sports. The most frequent cause of recurrence was tackling, and recurrence occurred with tackling in 12 of 16 athletes playing rugby or American football. Reoperation was completed in 11 shoulders. By univariate analysis, significant risk factors for postoperative recurrence of instability included playing rugby, age between 10 and 19 years at surgery, preoperative glenoid defect, small bone fragment of bony Bankart lesion, and capsular tear. However, by multivariate analysis, the most significant factor was not the type of sport but younger age at operation and a preoperative glenoid defect with small or no bone fragment. Compared with the other sports, there was a significantly greater recurrence rate among rugby players without the aforementioned significant risk factors (small glenoid defect, $\leq 10\%$; medium or large bone fragment, $>5\%$; and no capsular tear).

Conclusion:

Younger age at operation and preoperative glenoid defect with small or no bone fragment significantly influenced recurrent instability among competitive athletes.

33. MENISCUS

Repair

September 2018 Volume 34, Issue 9, Pages 2614–2620

The Cost-Effectiveness of Meniscal Repair Versus Partial Meniscectomy in the Setting of Anterior Cruciate Ligament Reconstruction

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,
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DOI: <https://doi.org/10.1016/j.arthro.2018.06.046>

Purpose

To compare the cost-effectiveness of anterior cruciate ligament (ACL) reconstruction with meniscal repair to ACL reconstruction with partial meniscectomy.

Methods

A decision-analytic Markov disease progression model with a 40-year horizon was created simulating outcomes after both meniscal repair and partial meniscectomy at the time of ACL reconstruction. Event probabilities, costs, and utilities were used for the index procedures. The development of osteoarthritis and subsequent knee replacement were either calculated or selected from published literature. Difference in cost, difference in quality-adjusted life-years (QALYs), and incremental cost-effective ratio were calculated to determine which index procedure is most cost-effective.

Results

There is total direct cost from ACL reconstruction with meniscus repair of \$17,898 compared with that with partial meniscectomy of \$24,768 (cost savings of \$6,870). There was an estimated gain of 18.00 QALYs after ACL reconstruction with meniscus repair compared with 17.16 QALYs with partial meniscectomy (increase of 0.84 QALYs). In this scenario, meniscus repair is the dominant index procedure at the time of ACL reconstruction.

Conclusions

Meniscal repair at the time of ACL reconstruction is more cost-effective than partial meniscectomy.

34. PATELLA

Foot and ankle relationship

RESEARCH REPORT

Association of Hip and Foot Factors With Patellar Tendinopathy (Jumper's Knee) in Athletes

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Published: *Journal of Orthopaedic & Sports Physical Therapy*, 2018 **Volume:**48 **Issue:**9 **Pages:**676–684 **DOI:**10.2519/jospt.2018.7426

Background

Investigations on the causes of patellar tendinopathy should consider impairments at the hip and foot/ankle because they are known to influence movement patterns and affect patellar tendon loading.

Objectives

To investigate hip and foot/ankle impairments associated with patellar tendinopathy in volleyball and basketball athletes using classification and regression tree analysis.

Methods

In this clinical measurement, cross-sectional study, 192 athletes were assessed for impairments of the hip and foot/ankle, including shank-forefoot alignment, dorsiflexion range of motion (ROM), iliotibial band flexibility, passive hip internal rotation ROM, and hip external rotator and hip abductor isometric strength. Athletes with tenderness and/or pain at the inferior pole of the patella were considered to have patellar tendinopathy. Athletes with scores higher than 95 points on the Victorian Institute of Sport Assessment-patella (VISA-P), no pain during the single-leg decline squat, and no history of patellar tendon pain were considered not to have patellar tendinopathy. Classification and regression tree analyses were performed to identify interacting factors associated with patellar tendinopathy.

Results

Interactions among passive hip internal rotation ROM, shank-forefoot alignment, and hip external rotator and abductor strength identified athletes with and without patellar tendinopathy. The model achieved 71.2% sensitivity and 74.4% specificity. The area under the receiver operating characteristic curve was 0.77 (95% confidence interval: 0.70, 0.84; $P < .001$).

Conclusion

Impairments of the hip and foot/ankle are associated with the presence of patellar tendinopathy in volleyball and basketball athletes. Future studies should evaluate the role of these impairments in the etiology of patellar tendinopathy. *J Orthop Sports Phys Ther* 2018;48(9):676–684. Epub 23 May 2018. doi:10.2519/jospt.2018.7426

41 B. COMPARTMENT SYNDROME**Fasciotomy**

European Journal of Orthopaedic Surgery & Traumatology

pp 1–7|

Fasciotomy for chronic exertional compartment syndrome of the leg: clinical outcome in a large retrospective cohort

- J. P. H. Tam A. G. F. Gibson J. R. D. Murray M Hassaballa

Background

Chronic exertional compartment syndrome (CECS) is an overuse disorder typically affecting an athletic population. CECS is a diagnosis based on history and intracompartmental pressure (ICP) testing. CECS patients can be treated surgically by fasciotomy; however, research on the relationship between ICP and patient symptoms and also between ICP and patient-reported outcome post-fasciotomy is limited. This study aims to (1) assess functional outcome and patient satisfaction post-fasciotomy and (2) identify any potential correlation between ICP and reported levels of pain.

Methods

138 CECS patients who had ICP measurements and subsequently underwent fasciotomy were identified from our regional service for exercise-induced lower limb extremity pain between January 2000 and March 2017. Clinical outcomes were recorded at the time of ICP testing and in the post-operative follow-up clinic. Pain was reported using a verbal rating scale (VRS) ('low', 'moderate' or 'high') or as a visual analogue score (VAS) 0–10 (0 = least painful, 10 = most painful). Spearman's ranked correlation test was used to calculate correlation between ICP and reported pain.

Results

A total of 138 patients were eligible for inclusion in this study (mean age 29.7 ± 9.7 years, 110 M, 28 F) of which 109 patients (VRS $n = 61$, VAS $n = 48$) reported pain level at pre- and post-operative stages. Mean pre-operative VAS score was 8.52 ± 0.71 , and decreased to 0.77 ± 0.69 post-operatively. An insignificant positive correlation ($r = 0.046$, two-tailed $p = 0.76$) was found between VAS pain and ICP. A significant moderate positive correlation ($r = 0.497$, two-tailed $p = 0.01$) was found between VRS pain and ICP.

Conclusion

Fasciotomy significantly reduces pain and increases activity levels in CECS patients. ICP was found to positively correlate with patient-reported pain.

42. PLANTAR SURFACE

4 types of treatments compared

The Journal of Foot and Ankle Surgery

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Effectiveness of Four Different Treatment Modalities in the Treatment of Chronic Plantar Fasciitis During a 36-Month Follow-Up Period: A Randomized Controlled Trial

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Abstract

No consensus has been reached about the best treatment method of [plantar fasciitis](#) and the results of the treatment methods have been inconsistent.

The objective of the present study was to compare the therapeutic effects of [extracorporeal shock wave therapy](#), platelet-rich plasma injection, local [corticosteroid](#) injection, and prolotherapy for the treatment of chronic plantar fasciitis using a randomized, controlled, [prospective study](#). We performed a randomized controlled prospective clinical study of 4 groups. The first group received extracorporeal shock wave therapy, the second group received prolotherapy, the third group received platelet-rich plasma injection, and the fourth group received a local corticosteroid injection. The study included 158 consecutive patients with a diagnosis of chronic plantar fasciitis with a symptomatic [heel spur](#). The clinical outcomes were assessed using the visual analog scale and Revised Foot Function Index. At the end of the follow-up period, the mean visual analog scale scores for all 4 groups were similar to the mean visual analog scale scores before treatment. At the end of the follow-up period, no significant improvement was noted in the Revised Foot Function Index score in any of the groups.

The corticosteroid injection was more effective in the first 3 months and extracorporeal shock wave therapy was an effective treatment method in the first 6 months in regard to pain. The corticosteroid injection lost its effectiveness during the follow-up period. The effect of prolotherapy and platelet-rich plasma was seen within 3 to 12 months; however, at the 36-month follow-up point, no differences were found among the 4 treatments.

55. SCOLIOSIS**Surgery and muscle loss****Long-term (10 yr) MRI follow-up of paraspinal muscle quality after posterior fusion for adolescent idiopathic scoliosis**

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Current Orthopaedic Practice: July 18, 2018 - Volume Publish Ahead of Print - Issue - p
doi: 10.1097/BCO.0000000000000666

Background: Posterior muscle-splitting approaches are the most commonly performed surgery for spinal fusion in those diagnosed with adolescent idiopathic scoliosis (AIS). Although short-term postsurgical changes have been documented regarding the posterior paraspinal musculature, there is a paucity of studies regarding the long-term effects.

Methods: Sixty-three consecutive patients with AIS were offered participation via mail invitation. Magnetic resonance imaging (MRI) studies were reviewed to analyze axial images at each level distal to the fusion mass. Symmetry, muscle quality, and fatty infiltration were graded according to the Goutallier classification of the iliocostalis, longissimus, and spinalis muscles.

Results: Twenty patients were enrolled in this study with a mean age of 26 yr and a mean follow-up of 12 yr. These patients had a preoperative mean major curve of -55 degrees and a postoperative mean major curve of -25 degrees. The mean fusion length performed was approximately 11 levels. In total 49 levels were graded for change. Thirteen patients (65%) had no qualitative abnormalities across 34 levels (69.4%), and seven patients (35%) had abnormalities. Of those with abnormalities, five had unilateral greater than grade 2 right-sided changes and two had grade-4 changes in the spinalis muscle.

Conclusions: The open posterior muscle splitting approach for spinal fusion demonstrates very little long-term qualitative fatty degeneration distal to the fusion mass on MRI. Future studies should focus on what patient-specific and surgery-specific factors may predispose someone to long-term damage to the paraspinal muscles after spinal fusion.

Adolescent surgery

European Spine Journal

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Proximal junctional kyphosis in thoracic adolescent idiopathic scoliosis: risk factors and compensatory mechanisms in a multicenter national cohort

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Introduction

Proximal junctional kyphosis (PJK) is a frequent complication, up to 46%, in adolescent idiopathic scoliosis surgical treatment (AIS). Several risk factors have been evoked but remain controversial. The purpose of this study was to analyze the incidence of PJK in a multicenter cohort of AIS patient and to determine risk factor for PJK.

Materials and methods

Lenke I and II AIS patients operated between 2011 and 2015 (minimum of 2-years follow-up) were included. On fullspine X-rays, coronal and sagittal radiographic parameters were measured preoperatively, postoperatively and at final follow-up. Occurrence of radiological PJK corresponding to a 10° increase in the sagittal Cobb angle, measured between the upper instrumented vertebra (UIV) and UIV + 2, between postoperative and 2-years follow-up X-rays, was reported.

Results

Among the 365 patients included, 15.6% ($n = 57$) developed a PJK and only 10 patients required a revision surgery. Preoperatively, PJK patients had significantly larger pelvic incidence ($57^\circ \pm 13^\circ$ vs. $51^\circ \pm 12^\circ$), larger lumbar lordosis (LL) ($63^\circ \pm 12^\circ$ vs. $57^\circ \pm 11^\circ$) and bigger C7 slope. Postoperatively (3 months), in the non-PJK group, thoracic kyphosis (TK) was increased and LL was not significantly different. However, postoperatively, in the PJK group, no significant change was observed in TK, whereas C7 slope decreased and LL significantly increased. There was also a postoperative change in inflection point which was located at a more proximal level in the PJK group. Between postoperative time and final follow-up, TK and LL significantly increased in the PJK group.

Conclusion

PJK is a frequent complication in thoracic AIS, occurring 16%, but remains often asymptomatic (less than 3% of revisions in the entire cohort). An interesting finding is that patients with high pelvic incidence and consequently large LL and TK were more at risk of PJK. As demonstrated in ASD, one of the causes of PJK might be postoperative posterior imbalance that can be due to increased LL, insufficient TK or inflection point shift during surgery.

56. ATHLETICS**Groin injuries in soccer players**

RESEARCH REPORT

Risk Factors for Groin Injury and Groin Symptoms in Elite-Level Soccer Players: A Cohort Study in the Dutch Professional Leagues

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Background

Groin injury and groin symptoms are common in soccer players. The relationship of groin injury and groin symptoms to reduced hip range of motion (ROM) and previous injury is unclear.

Objectives

To conduct a retrospective assessment of associations between previous injury and preseason hip ROM and preseason prevalence of severe groin symptoms, and to prospectively identify risk factors for within-season groin injury.

Methods

During the period of 2015 to 2016, 190 players from 9 Dutch professional soccer clubs participated in this cohort study with prospective and retrospective elements. Univariate and multivariate logistic regressions were used to predict preseason severe groin symptoms, identified using the Copenhagen Hip and Groin Outcome Score, from a history of previous groin injury, general injury (minimum of 1 week in duration) in the previous season, and hip ROM. Cox regression was used to predict within-season groin injury.

Results

Point prevalence of severe groin symptoms was 24% and within-season incidence of groin injury was 11%. Total, training, and match groin injury incidences were 0.5, 0.2, and 2.6 injuries per 1000 playing hours, respectively. A history of more than 1 previous groin injury was associated with current severe groin symptoms (odds ratio = 3.0; 95% confidence interval: 1.0, 8.3; $P = .038$). General injury sustained in the previous season (ankle, knee, thigh, shoulder; median, 9 weeks of time loss) was a risk factor for groin injury (hazard ratio = 5.1; 95% confidence interval: 1.8, 14.6; $P = .003$).

Conclusion

Severe injuries in the previous season to locations other than the groin increase the risk of groin injury the next season. A history of groin injury is associated with current severe groin symptoms. Preseason hip ROM does not identify players at risk for groin injury.

Level of Evidence

Prevention, level 2b. *J Orthop Sports Phys Ther* 2018;48(9):704–712. Epub 23 May 2018. doi:10.2519/jospt.2018.7990

Cardiac screening

Outcomes of Cardiac Screening in Adolescent Soccer Players

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BACKGROUND

Reports on the incidence and causes of sudden cardiac death among young athletes have relied largely on estimated rates of participation and varied methods of reporting. We sought to investigate the incidence and causes of sudden cardiac death among adolescent soccer players in the United Kingdom.

METHODS

From 1996 through 2016, we screened 11,168 adolescent athletes with a mean (\pm SD) age of 16.4 ± 1.2 years (95% of whom were male) in the English Football Association (FA) cardiac screening program, which consisted of a health questionnaire, physical examination, electrocardiography, and echocardiography. The FA registry was interrogated to identify sudden cardiac deaths, which were confirmed with autopsy reports.

RESULTS

During screening, 42 athletes (0.38%) were found to have cardiac disorders that are associated with sudden cardiac death. A further 225 athletes (2%) with congenital or valvular abnormalities were identified. After screening, there were 23 deaths from any cause, of which 8 (35%) were sudden deaths attributed to cardiac disease. Cardiomyopathy accounted for 7 of 8 sudden cardiac deaths (88%). Six athletes (75%) with sudden cardiac death had had normal cardiac screening results. The mean time between screening and sudden cardiac death was 6.8 years. On the basis of a total of 118,351 person-years, the incidence of sudden cardiac death among previously screened adolescent soccer players was 1 per 14,794 person-years (6.8 per 100,000 athletes).

CONCLUSIONS

Diseases that are associated with sudden cardiac death were identified in 0.38% of adolescent soccer players in a cohort that underwent cardiovascular screening. The incidence of sudden cardiac death was 1 per 14,794 person-years, or 6.8 per 100,000 athletes; most of these deaths were due to cardiomyopathies that had not been detected on screening. (Funded by the English Football Association and others.)

61. FIBROMYALGIA**Serotonin levels**

Year : 2018 | Volume : 23 | Issue : 1 | Page : 71

Serum levels of serotonin as a biomarker of newly diagnosed fibromyalgia in women: Its relation to the platelet indices

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DOI: 10.4103/jrms.JRMS_859_17

Background: This study aimed to assess the serum serotonin levels in the newly diagnosed fibromyalgia (FM) and to relate these levels to the presenting signs and symptoms.

Materials and Methods: This case-control study included 35 healthy women (Group I) served as controls and 130 women with newly diagnosed FM (Group II). The diagnosis of FM was confirmed by the diagnostic criteria of the American College of Rheumatology-10. The assessment of pain using a revised fibromyalgia impact questionnaire and tender points scoring, blood platelet indices, and serum serotonin levels were determined.

Results: Group II patients had significantly ($P < 0.001$) higher values of mean platelet volume (MPV) (10.60 ± 1.57 fL) and platelet width distribution ($16.25 \pm 1.45\%$) than the corresponding values in Group I (8.73 ± 0.81 fL and $15.0 \pm 1.15\%$). Significant low-serum serotonin levels observed in Group II patients compared with Group I healthy individuals (187.3 ± 50.3 ng/ml vs. 219.5 ± 78.3 ng/ml, $P = 0.026$). Multiple linear regression analysis showed the nonsignificant correlations between serum serotonin levels and platelet indices in Group II patients.

Conclusion: Newly diagnosed FM women have significantly low-serum serotonin levels, which does not correlate with a significant increment of the platelet activity expressed as increase MPV and platelet width distribution percentage. Therefore, this study highlighted that the correction of serum serotonin level by medicines could help the patients.