

7. PELVIC ORGANS/WOMAN'S HEALTH

Hormone therapy and Breast Ca

type and timing of menopausal hormone therapy and breast cancer risk: individual participant meta-analysis of the worldwide epidemiological evidence

Open Access Published: August 29, 2019 DOI:

Background

Published findings on breast cancer risk associated with different types of menopausal hormone therapy (MHT) are inconsistent, with limited information on long-term effects. We bring together the epidemiological evidence, published and unpublished, on these associations, and review the relevant randomised evidence.

Methods

Principal analyses used individual participant data from all eligible prospective studies that had sought information on the type and timing of MHT use; the main analyses are of individuals with complete information on this. Studies were identified by searching many formal and informal sources regularly from Jan 1, 1992, to Jan 1, 2018. Current users were included up to 5 years (mean 1.4 years) after last-reported MHT use. Logistic regression yielded adjusted risk ratios (RRs) comparing particular groups of MHT users versus never users.

Findings

During prospective follow-up, 108 647 postmenopausal women developed breast cancer at mean age 65 years (SD 7); 55 575 (51%) had used MHT. Among women with complete information, mean MHT duration was 10 years (SD 6) in current users and 7 years (SD 6) in past users, and mean age was 50 years (SD 5) at menopause and 50 years (SD 6) at starting MHT. Every MHT type, except vaginal oestrogens, was associated with excess breast cancer risks, which increased steadily with duration of use and were greater for oestrogen-progestagen than oestrogen-only preparations. Among current users, these excess risks were definite even during years 1–4 (oestrogen-progestagen RR 1.60, 95% CI 1.52–1.69; oestrogen-only RR 1.17, 1.10–1.26), and were twice as great during years 5–14 (oestrogen-progestagen RR 2.08, 2.02–2.15; oestrogen-only RR 1.33, 1.28–1.37). The oestrogen-progestagen risks during years 5–14 were greater with daily than with less frequent progestagen use (RR 2.30, 2.21–2.40 vs 1.93, 1.84–2.01; heterogeneity $p < 0.0001$). For a given preparation, the RRs during years 5–14 of current use were much greater for oestrogen-receptor-positive tumours than for oestrogen-receptor-negative tumours, were similar for women starting MHT at ages 40–44, 45–49, 50–54, and 55–59 years, and were attenuated by starting after age 60 years or by adiposity (with little risk from oestrogen-only MHT in women who were obese). After ceasing MHT, some excess risk persisted for more than 10 years; its magnitude depended on the duration of previous use, with little excess following less than 1 year of MHT use.

Interpretation

If these associations are largely causal, then for women of average weight in developed countries, 5 years of MHT, starting at age 50 years, would increase breast cancer incidence at ages 50–69 years by about one in every 50 users of oestrogen plus daily progestagen preparations; one in every 70 users of oestrogen plus intermittent progestagen preparations; and one in every 200 users of oestrogen-only preparations. The corresponding excesses from 10 years of MHT would be about twice as great.

Mother's depression impacts child's brain development

Am J Psychiatry. 2019 Sep 1;176(9):702-710. doi: 10.1176/appi.ajp.2019.18080970. Epub 2019 May 6.

Exposure to Maternal Depressive Symptoms in Fetal Life or Childhood and Offspring Brain Development: A Population-Based Imaging Study.

Zou R¹, Tiemeier H¹, van der Ende J¹, Verhulst FC¹, Muetzel RL¹, White T¹, Hillegers M¹, El Marroun H¹.

OBJECTIVE:

The authors examined associations of exposure to maternal depressive symptoms at different developmental stages from fetal life to preadolescence with child brain development, including volumetrics and white matter microstructure.

METHODS:

This study was embedded in a longitudinal birth cohort in Rotterdam, the Netherlands. Participants were 3,469 mother-child pairs with data on maternal depressive symptoms and child neuroimaging at age 10. The authors also measured child emotional and behavioral problems at the time of neuroimaging. The association of maternal depressive symptoms with child brain development at each assessment was examined. Maternal depressive symptom trajectories were modeled across fetal life and childhood to determine the association of maternal depressive symptom patterns over time with child brain development.

RESULTS:

The single-time-point analyses showed that maternal depressive symptoms at child age 2 months were associated with smaller total gray matter volume and lower global fractional anisotropy (FA), whereas maternal depressive symptoms assessed prenatally or in childhood were not. The trajectory analyses suggested in particular that children exposed to persistently high levels of maternal depressive symptoms across the perinatal period had smaller gray and white matter volumes as well as alterations (i.e., lower FA) in white matter microstructure compared with nonexposed children. Furthermore, the gray matter volume differences mediated the association between postnatal maternal depressive symptoms and child attention problems.

CONCLUSIONS:

Perinatal maternal depressive symptoms were consistently associated with child brain development assessed 10 years later. These results suggest that the postnatal period is a window of vulnerability for adversities such as maternal depressive symptoms.

Prenatal exposure to rats and goats increases risk of asthma

J Asthma. 2018 Oct 1:1-6. doi: 10.1080/02770903.2018.1515224.

The association of prenatal risk factors with childhood asthma.

Arif AA¹, Veri SD¹.

OBJECTIVE:

The purpose of the study was to examine the relationship of maternal complications during pregnancy and prenatal exposures with childhood asthma among low-income families in Karachi, Pakistan.

METHODS:

Parents/guardians of children with and without asthma visiting a charity hospital were enrolled. Information about prenatal and perinatal exposures was collected. Univariable and multiple stepwise logistic regression analysis were conducted to explore the relationship of socio-demographic, maternal complications during pregnancy, access to prenatal care, and exposure to animals and pests while pregnant with childhood asthma.

RESULTS:

Maternal symptoms of nocturnal cough (adjusted OR [aOR] = 2.87, 95% CI = 1.60-5.14) and wheezing (aOR = 5.57, 95% CI = 2.32-13.37) during pregnancy significantly increased the odds of childhood asthma. The family history of asthma or hay fever, also elevated the odds of childhood asthma (adjusted OR [aOR] = 5.86 (3.03-11.34)). The odds of asthma among children whose mothers received prenatal care by Dai, an unskilled health worker, were significantly elevated. Lastly, prenatal exposure to rats/mice and contact with goats while pregnant was significantly associated with childhood asthma. Whereas, prenatal exposure to cows/cattle reduces the odds of childhood asthma.

CONCLUSIONS:

This study identified important maternal and prenatal risk factors for childhood asthma, the majority of which are avoidable. Appropriate steps are needed to create awareness about the prenatal risk factors in this population.

8. VISCERA

Antibiotic use and increase risk of Colon CA

Gut. 2019 Aug 19. pii: gutjnl-2019-318593. doi: 10.1136/gutjnl-2019-318593.

Oral antibiotic use and risk of colorectal cancer in the United Kingdom, 1989-2012: a matched case-control study.

Zhang J^{#1,2}, Haines C^{#3}, Watson AJM^{4,5}, Hart AR^{4,5}, Platt MJ⁴, Pardoll DM^{1,2}, Cosgrove SE³, Gebo KA^{#3,6}, Sears CL^{#1,3}.

BACKGROUND:

Microbiome dysbiosis predisposes to colorectal cancer (CRC), but a population-based study of oral antibiotic exposure and risk patterns is lacking.

OBJECTIVE:

To assess the association between oral antibiotic use and CRC risk.

DESIGN:

A matched case-control study (incident CRC cases and up to five matched controls) was performed using the Clinical Practice Research Datalink from 1989 to 2012.

RESULTS:

28 980 CRC cases and 137 077 controls were identified. Oral antibiotic use was associated with CRC risk, but effects differed by anatomical location. Antibiotic use increased the risk of colon cancer in a dose-dependent fashion ($p_{\text{trend}} < 0.001$). The risk was observed after minimal use, and was greatest in the proximal colon and with antibiotics with anti-anaerobic activity. In contrast, an inverse association was detected between antibiotic use and rectal cancers ($p_{\text{trend}} = 0.003$), particularly with length of antibiotic exposure > 60 days (adjusted OR (aOR), 0.85, 95% CI 0.79 to 0.93) as compared with no antibiotic exposure. Penicillins, particularly ampicillin/amoxicillin increased the risk of colon cancer (aOR=1.09 (1.05 to 1.13)), whereas tetracyclines reduced the risk of rectal cancer (aOR=0.90 (0.84 to 0.97)). Significant interactions were detected between antibiotic use and tumour location (colon vs rectum, $p_{\text{interaction}} < 0.001$; proximal colon versus distal colon, $p_{\text{interaction}} = 0.019$). The antibiotic-cancer association was found for antibiotic exposure occurring > 10 years before diagnosis (aOR=1.17 (1.06 to 1.31)).

CONCLUSION:

Oral antibiotic use is associated with an increased risk of colon cancer but a reduced risk of rectal cancer. This effect heterogeneity may suggest differences in gut microbiota and carcinogenesis mechanisms along the lower intestinal tract.

CBT helps IBS

Cognitive behavioural therapy for irritable bowel syndrome: 24-month follow-up of participants in the ACTIB randomised trial

The Lancet: Gastroenterology & Hepatology

Everitt HA, Landau S, O'Reilly G, et al. | September 10, 2019

Researchers conducted this follow-up study to assess longer-term (24 months) clinical results of telephone cognitive behavioural therapy (CBT) and web CBT vs treatment as usual (TAU) in adults with refractory irritable bowel syndrome (IBS). Five hundred fifty-eight adults with refractory IBS were randomly allocated to receive either therapist-delivered telephone CBT (telephone-CBT group), web-based CBT with minimal therapist support (web-CBT group), or TAU group and were followed up for 12 months in the ACTIB three-group, randomised, controlled trial.

According to results, sustained improvements in IBS were observed in both CBT groups vs TAU at 24-month follow-up, although some previous gains were reduced vs the 12-month outcomes. IBS-specific CBT has the potential to achieve long-term improvements in IBS within the usual clinical setting. A long-term patient advantage could be achieved by increasing access to CBT for IBS. There have been no treatment-related adverse events.

Differentiating celiac disease**Cytokine release after gluten ingestion differentiates coeliac disease from self-reported gluten sensitivity**Jason A Tye-Din , Gry I Skodje, Vikas K Sarna, ...<https://doi.org/10.1177/2050640619874173>**Background**

Diagnosing coeliac disease (CD) in patients on a gluten-free diet (GFD) is difficult. Ingesting gluten elevates circulating interleukin (IL)-2, IL-8 and IL-10 in CD patients on a GFD.

Objective

We tested whether cytokine release after gluten ingestion differentiates patients with CD from those with self-reported gluten sensitivity (SR-GS).

Methods

Australian patients with CD ($n = 26$) and SR-GS ($n = 18$) on a GFD consumed bread (estimated gluten 6 g). Serum at baseline and at 3 and 4 h was tested for IL-2, IL-8 and IL-10. Separately, Norwegian SR-GS patients ($n = 49$) had plasma cytokine assessment at baseline and at 2, 4 and 6 h after food bars containing gluten (5.7 g), fructan or placebo in a previous double-blind crossover study.

Results

Gluten significantly elevated serum IL-2, IL-8 and IL-10 at 3 and 4 h in patients with CD but not SR-GS. The highest median fold-change from baseline at 4 h was for IL-2 (8.06, IQR: 1.52–24.0; $P < 0.0001$, Wilcoxon test). The two SR-GS cohorts included only one (1.5%) confirmed IL-2 responder, and cytokine responses to fructan and placebo were no different to gluten. Overall, cytokine release after gluten was present in 22 (85%) CD participants, but 2 of the 4 non-responders remained clinically well after 1 y on an unrestricted diet. Hence, cytokine release occurred in 22 (92%) of 24 ‘verified’ CD participants.

Conclusions

Gluten challenge with high-sensitivity cytokine assessment differentiates CD from SR-GS in patients on a GFD and identifies patients likely to tolerate gluten reintroduction. Systemic cytokine release indicating early immune activation by gluten in CD individuals cannot be detected in SR-GS individuals.

12 A. WHIPLASH**Facet DJD increase risk**

Spine J. 2019 Aug 5. pii: S1529-9430(19)30899-X. doi: 10.1016/j.spinee.2019.07.017

Association between cervical degeneration and self-perceived nonrecovery after whiplash injury.

Rydman E¹, Kasina P², Ponzer S², Järnbert-Pettersson H².

BACKGROUND CONTEXT:

Pre-existing radiological degenerative changes have not previously been considered a risk factor for nonrecovery from neck pain due to motor vehicle accidents (MVA). Results from previous studies are however often based on assessment of plain radiography or MRI and little consideration has been given to facet joints. Furthermore, previous studies have often lacked a validated scoring system for degenerative changes.

PURPOSE:

To investigate the association between cervical degeneration on computed tomography (CT) and nonrecovery after whiplash trauma.

STUDY DESIGN:

Longitudinal cohort study.

PATIENT SAMPLE:

One hundred twenty-one patients attending the Emergency Department because of neck pain after MVA, 2015-2017, with a valid CT-scan of the cervical spine and completion of follow up after 6 months.

OUTCOME MEASURES:

The primary outcome measure was self-perceived nonrecovery (yes/no) after 6 months. A secondary outcome measure was self-reported pain level (Numeric Rating Scale).

METHODS:

Baseline data regarding demographics and health factors were gathered through a web-based questionnaire. Degeneration of facet joints and intervertebral discs was assessed on CT-scans according to a validated scoring system. Binary logistic regression was used to study the association between cervical degeneration and nonrecovery.

RESULTS:

Moderate facet joint degeneration was associated with nonrecovery. In the group with moderate degree of facet joint degeneration, 69.6% reported nonrecovery compared with 23.6% among patients without any signs of degeneration (adjusted odds ratio 6.7 [95% confidence interval: 1.9-24.3]). There was no association between disc degeneration and nonrecovery. Combined facet joint degeneration and disc degeneration were associated with nonrecovery (adjusted odds ratio 6.2 [2.0-19.0]).

CONCLUSIONS:

These results suggest that cervical degeneration, especially facet joint degeneration, is a risk factor for nonrecovery after whiplash trauma. We hypothesize that whiplash trauma can be a trigger for painful manifestation of previously asymptomatic facet joint degeneration.

13 D. SLEEP**Behavioral issues and insomnia**

JAMA Netw Open. 2019 Sep 4;2(9):e1910861. doi: 10.1001/jamanetworkopen.2019.10861.

Association Between Childhood Behavioral Problems and Insomnia Symptoms in Adulthood.

Melaku YA¹, Appleton S^{1,2,3}, Reynolds AC^{4,5}, Sweetman AM¹, Stevens DJ¹, Lack L^{1,6}, Adams R^{1,3}.

IMPORTANCE: Life-course determinants of insomnia, particularly the long-term association of childhood behavioral problems with insomnia later in life, are unknown. As childhood behaviors are measurable and potentially modifiable, understanding their associations with insomnia symptoms may provide novel insights into early intervention strategies to reduce the burden.

OBJECTIVE: To investigate the association between behavioral problems at 5, 10, and 16 years of age and self-reported insomnia symptoms at 42 years of age.

DESIGN, SETTING, AND PARTICIPANTS: This cohort study used data from the United Kingdom 1970 Birth Cohort Study, an ongoing large-scale follow-up study. Participants were followed up from birth (1970) to age 42 years (2012). Missing data were imputed via multiple imputation. Statistical analysis was performed from February 1 to July 15, 2019.

EXPOSURES: Behavior measured at 5, 10, and 16 years of age using the Rutter Behavioral Scale (RBS). Children's behavior was classified as normal (≤ 80 th percentile), moderate behavioral problems (> 80 th to ≤ 95 th percentile), and severe behavioral problems (> 95 th percentile) based on their RBS score.

MAIN OUTCOMES AND MEASURES: Self-reported difficulties initiating or maintaining sleep (DIMS) were collected using a self-administered questionnaire at 42 years of age. Log-binomial logistic regression, adjusted for several potential confounders, was used to estimate the association of childhood behavioral problems with insomnia symptoms in adulthood. Sensitivity analyses were conducted to check robustness of the findings.

RESULTS: Participants were followed up from a baseline age of 5 years ($n = 8050$; 3854 boys and 4196 girls), 10 years ($n = 9090$; 4365 boys and 4725 girls), or 16 years ($n = 7653$; 3575 boys and 4078 girls) until age 42 years. There was a 39% higher risk of DIMS (odds ratio [OR], 1.39; 95% CI, 1.04-1.84; $P = .06$ for trend) for participants with severe behavioral problems at 5 years of age compared with those with a normal RBS score. The odds of DIMS plus not feeling rested on waking (DIMS plus) in participants with severe behavioral problems at 5 years of age were 29% higher (odds ratio, 1.29; 95% CI, 0.97-1.70; $P = .14$ for trend) than participants with a normal RBS score, although this result was not statistically significant. Moderate and severe behavioral problems at 16 years of age were positively associated with DIMS and DIMS plus (moderate: OR, 1.28; 95% CI, 1.07-1.52; severe: OR, 1.67; 95% CI, 1.22-2.30; $P < .001$ for trend) and DIMS plus (moderate: OR, 1.32; 95% CI, 1.11-1.56; severe: OR, 1.47; 95% CI, 1.09-1.98; $P < .001$ for trend). Externalizing behavioral problems at 5 and 10 years of age were positively associated with insomnia symptoms at 42 years of age.

CONCLUSIONS AND RELEVANCE:

This study is the first to show associations of early-life behavioral problems, particularly early- and middle-childhood externalizing problems, with insomnia symptoms in adulthood. These findings underline the importance of addressing insomnia from a life-course perspective and considering the benefits of early behavioral intervention to sleep health.

Sleep cycles

J Sleep Res. 2019 Sep 8:e12918. doi: 10.1111/jsr.12918

Development of sleep-wake rhythms during the first year of age.

Paavonen EJ^{1,2}, Morales-Muñoz I^{1,3}, Pölkki P⁴, Paunio T^{1,5}, Porkka-Heiskanen T⁶, Kylliäinen A⁷, Partonen T¹, Saarenpää-Heikkilä O^{8,9}.

Circadian rhythms refer to biological rhythms that have an endogenous period length of approximately 24 hr. However, not much is known about the variance in the development of the sleep-wake rhythm.

The study objectives were (a) to describe the normative variation in the development of a sleep-wake rhythm in infancy, (b) to assess whether slower development is related to sleep quality and (c) to evaluate factors that are related to the slower development of a sleep-wake rhythm. The study is based on a representative birth cohort. Questionnaires at the ages of 3 (n = 1,427) and 8 months (n = 1,302) and actigraph measurement at 8 months (n = 372) were available. Infants with significant developmental delays (n = 11) were excluded. The results are based on statistical testing and multivariate modelling.

We found that the average percentage of daytime sleep was 36.3% (standard deviation [SD], 8.5%) at 3 months and 25.6% (SD, 6.6%) at 8 months. At both time-points, infants with slower sleep-wake rhythm development slept more hours per day, had a later sleep-wake rhythm, more difficulties in settling to sleep and longer sleep-onset latency; they also spent a longer time awake during the night. According to actigraph registrations, we found that the infants with slow development of a sleep-wake rhythm slept less and had a later start and end to night-time sleep than the other infants. Infants' sleep-wake rhythm development is highly variable and is related to parent-reported and objectively measured sleep quality and quantity. Interventions to improve the sleep-wake rhythm might improve sleep quality in these infants.

© 2019 European Sleep Research Society.

KEYWORDS:

infant; sleep; sleep-wake rhythms

Sleep deprivation and CV risk

J Lipid Res. 2019 Sep 4. pii: jlr.P094375. doi: 10.1194/jlr.P094375.

Four nights of sleep restriction suppress the postprandial lipemic response and decrease satiety.

Ness KM¹, Strayer SM², Nahmod NG², Schade MM², Chang AM², Shearer GC², Buxton OM³. Chronic sleep restriction, or inadequate sleep, is associated with increased risk of cardiometabolic disease.

Laboratory studies demonstrate that sleep restriction causes impaired whole-body insulin sensitivity and glucose disposal. Evidence suggests that inadequate sleep also impairs adipose tissue insulin sensitivity and the non-esterified fatty acid (NEFA) rebound during intravenous glucose tolerance tests, yet no studies have examined the effects of sleep restriction on high-fat meal lipemia. We assessed the effect of five hours time in bed (TIB)/night for four consecutive nights on postprandial lipemia following a standardized high-fat dinner (HFD). Furthermore, we assessed whether one night of recovery sleep (ten hours TIB) was sufficient to restore postprandial metabolism to baseline. We found that postprandial triglyceride area-under-the-curve was suppressed by sleep restriction ($p=0.01$), but returned to baseline values following one night of recovery.

Sleep restriction decreased NEFA throughout the HFD ($p=0.02$) and NEFA remained suppressed in the recovery condition ($p=0.04$). Sleep restriction also decreased participant reported fullness, or satiety, ($p=0.03$) and decreased postprandial IL 6 ($p<0.01$). Our findings indicate that four nights of five hours TIB/night impairs postprandial lipemia and that one night of recovery sleep may be adequate for recovery of triglyceride metabolism, but not for markers of adipocyte function.

14. HEADACHES

Migraine suffers greater risk of AD and dementia

Int J Geriatr Psychiatry. 2019 Sep 4. doi: 10.1002/gps.5180.

Migraine and the risk of all-cause dementia, Alzheimer's disease, and vascular dementia: A prospective cohort study in community-dwelling older adults.

Morton RE¹, St John PD², Tyas SL¹.

OBJECTIVES:

Dementia is the most common neurological disease in older adults; headaches, including migraines, are the most common neurological disorder across all ages. The objective of this study was to explore the relationship between migraines and dementia, including Alzheimer's disease (AD) and vascular dementia (VaD).

METHODS:

Analyses were based on 679 community-dwelling participants 65+ years from the Manitoba Study of Health and Aging, a population-based, prospective cohort study. Participants screened as cognitively intact at baseline had complete data on migraine history and all covariates at baseline and were assessed for cognitive outcomes (all-cause dementia, AD, and VaD) 5 years later. The association of exposure (lifetime history of migraines), confounding (age, gender, education, and depression), and intervening variables (hypertension, myocardial infarction, other heart conditions, stroke, and diabetes) with all-cause dementia and dementia subtypes (AD and VaD) was assessed using multiple logistic regression models.

RESULTS:

A history of migraines was significantly associated with both all-cause dementia (odds ratio [OR]=2.97; 95% confidence interval [CI]=1.25-6.61) and AD (OR=4.22; 95% CI=1.59-10.42), even after adjustment for confounding and intervening variables. Migraines were not significantly associated with VaD either before (OR=1.83; 95% CI=0.39-8.52) or after (OR=1.52; 95% CI=0.20-7.23) such adjustment.

CONCLUSIONS:

Migraines were a significant risk factor for AD and all-cause dementia. Despite the vascular mechanisms involved in migraine physiology, migraines were not significantly associated with VaD in this study. Recognition of the long-term detrimental consequences of migraines for AD and dementia has implications for migraine management, as well as for our understanding of AD etiology

20 A. ROTATOR CUFF**Scapula angle and re-tear**

Arthroscopy: The Journal of Arthroscopic & Related Surgery

Systematic Review

Does an Increased Critical Shoulder Angle Affect Re-tear Rates and Clinical Outcomes Following Primary Rotator Cuff Repair? A Systematic Review

Andrew J. Sheehan M.D.^a Darren deSanto M.D.^b Taylor Woolnough B.S.^b Daniel J. Cognetti M.D.^a Jeffrey Kay M.D.^b Stephen S. Burkhart M.D.^c

<https://doi.org/10.1016/j.arthro.2019.03.063> Get rights and content

Purpose

To determine if an increased critical shoulder angle (CSA) predisposes patients to higher re-tear rates and worse clinical outcomes after rotator cuff (RC) repair.

Methods

A comprehensive search of the PubMed, MEDLINE, and EMBASE databases was performed in October 2018 for English-language studies pertaining to RC repair and an increased CSA in accordance with Preferred Reported Items for Systematic Reviews and Meta-analyses guidelines. Studies of all levels of evidence were included provided that any outcomes, including pain, patient-reported outcomes, and re-tear rates, were reported.

Results

Of a group of 1126 studies that satisfied the initial search criteria, 6 studies were included in the final analysis, comprising data from 473 patients. Three comparative studies were assessed for an association between increased CSA and RC re-tear rates. Among these 3 studies that compared RC re-tear rate in patients with larger and smaller CSAs, 22 of 97 patients (23%) with a larger CSA had a RC re-tear in comparison to 10 of 99 patients (10%) with a smaller CSA. All 3 studies demonstrated higher RC re-tear rates in patients with larger CSAs (risk ratio, 2.39-9.66, $I^2 = 7\%$.) The mean CSA in those patients who did not have RC re-tears ranged from 34.3° to 37°, and the mean CSA in those patients who had RC re-tears ranged from 37° to 40°.

Conclusion

RC re-tear rates were higher in patients with larger CSAs among comparative, nonrandomized studies. However, the heterogeneity of the relevant literature limits the strength of this observation. Based on the current literature, it remains unclear as to whether lateral acromioplasty affects clinical outcomes as a function of a reduced postoperative CSA.

Level of Evidence Level IV, systematic review of Level II to IV studies.

Psychological issues

Systematic Review

The Effect of Psychosocial Factors on Outcomes in Patients With Rotator Cuff Tears: A Systematic ReviewPatrick Kennedy M.D., D.P.T.^a Rajat Joshi B.S.^b Aman Dhawan M.D.^a<https://doi.org/10.1016/j.arthro.2019.03.043> Get rights and content

Purpose

To determine whether psychosocial factors affect patient-reported outcomes in individuals with rotator cuff tears or after rotator cuff repair.

Methods

A systematic review was conducted using a computerized search of the PubMed and Web of Science electronic databases in adherence with the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-analyses) guidelines. Articles were then evaluated based on inclusion and exclusion criteria. The Newcastle-Ottawa Scale was used to assess study quality and risk of bias. Because of study heterogeneity and varied levels of evidence, meta-analysis was not possible.

Results

Of 980 identified articles, 15 met the inclusion and exclusion criteria. In those reported, the visual analog scale correlation with distress scales ranged from -0.476 to 0.334 , depending on outcome, with a trend toward increased pain in patients with distress. The depression subscale of the Hospital Anxiety and Depression Scale was negatively correlated with the American Shoulder and Elbow Surgeons score in 2 of 3 studies (-0.309 to 0.235). Six studies evaluated the presence of psychosocial factors and their correlation with patient-reported outcomes prior to surgery. These showed a significant correlation between rotator cuff pathology and psychological distress (i.e., depression or anxiety) as identified on standardized patient-reported outcome measures. Nine studies evaluated psychosocial factors either before and after surgery or only postoperatively. Of these 9 studies, 3 found no statistically significant differences in outcomes as related to psychosocial factors. In contrast, 6 of 9 reported an association between outcomes and psychosocial factors. Moreover, 2 of these 6 studies reported a direct relationship between patient expectations and outcomes, with 1 of these 2 studies finding that higher expectations improved baseline scores on the mental component summary of the Short Form 36 ($r = 0.307$). One study found significant differences in mental status in patients with rotator cuff tears based on age and sex.

Conclusions

This review found that most studies support that psychosocial factors do significantly influence the level of disability and pain experienced by patients preoperatively; however, 3 of 9 studies showed significant improvements in postoperative pain and function even with significant psychosocial confounders. These studies, however, do support that there is a direct relation between patient expectations and outcomes in rotator cuff surgery.

Level of Evidence Level IV, systematic review of Level I through IV studies.

22 A. SHOULDER IMPINGMENT

Conservative care can help

Bone Joint J. 2019 Sep;101-B(9):1100-1106. doi: 10.1302/0301-620X.101B9.BJJ-2018-1591.R1.

Surgical repair *versus* conservative treatment and subacromial decompression for the treatment of rotator cuff tears: a meta-analysis of randomized trials.

Schemitsch C¹, Chahal J², Vicente M³, Nowak L¹, Flurin PH⁴, Lambers Heerspink F⁵, Henry P⁶, Nauth A⁷.

AIMS:

The purpose of this study was to compare the effectiveness of surgical repair to conservative treatment and subacromial decompression for the treatment of chronic/degenerative tears of the rotator cuff.

MATERIALS AND METHODS:

PubMed, Cochrane database, and Medline were searched for randomized controlled trials published until March 2018. Included studies were assessed for methodological quality, and data were extracted for statistical analysis. The systematic review was conducted following PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines.

RESULTS:

Six studies were included. Surgical repair resulted in a statistically significantly better Constant-Murley Score (CMS) at one year compared with conservative treatment (mean difference 6.15; $p = 0.002$) and subacromial decompression alone (mean difference 5.81; $p = 0.0004$). In the conservatively treated group, 11.9% of patients eventually crossed over to surgical repair.

CONCLUSION:

The results of this review show that surgical repair results in significantly improved outcomes when compared with either conservative treatment or subacromial decompression alone for degenerative rotator cuff tears in older patients. However, the magnitude of the difference in outcomes between surgery and conservative treatment may be small and the 'success rate' of conservative treatment may be high, allowing surgeons to be judicious in choosing those patients who are most likely to benefit from surgery. Cite this article: *Bone Joint J* 2019;101-B:1100-1106.

30 A. HIP IMPINGEMENT**SI problems in many impingement patients**

Arthroscopy: The Journal of Arthroscopic & Related Surgery Volume 35, Issue 9, September 2019, Pages 2598-2605.e1

Radiographic Prevalence of Sacroiliac Joint Abnormalities and Clinical Outcomes in Patients With Femoroacetabular Impingement Syndrome

Vignesh P. Krishnamoorthy M.D.^a Edward C. Beck M.D., M.P.H.^a Kyle N. Kunze B.S.^a Jourdan M. Cancienne M.D.^a Laura M. Krivicich B.S.^a Sunikom Suppauksorn M.D.^a Olufemi R. Ayeni M.D.^b Shane J. Nho M.D., M.S.^a

<https://doi.org/10.1016/j.arthro.2019.03.030> Get rights and content

Purpose To quantify the prevalence of sacroiliac joint (SIJ) abnormalities in patients undergoing hip arthroscopy for femoroacetabular impingement syndrome (FAIS) by use of various imaging modalities and to compare outcomes based on SIJ abnormalities.

Methods Plain radiographs, computed tomography (CT) scans, and magnetic resonance imaging (MRI) scans of patients who underwent primary hip arthroscopy for FAIS from January 2012 to January 2016 were identified. The exclusion criteria included patients undergoing bilateral or revision surgery, those with a history of dysplasia, and those with less than 2 years' follow-up. On radiographs, the SIJs were graded using modified New York criteria for spondyloarthropathy. CT and MRI scans were reviewed for joint surface erosion, subchondral sclerosis, joint space narrowing, pseudo-widening, bone marrow edema, and ankylosis. Patients with SIJ abnormalities were matched to patients without SIJ abnormalities in a 1:2 ratio by age and body mass index. Outcomes included the Hip Outcome Score–Activities of Daily Living (HOS-ADL), Hip Outcome Score–Sports Subscale (HOS-SS), modified Harris Hip Score (mHHS), visual analog scale (VAS) for pain, and VAS for satisfaction.

Results Of 1,009 consecutive patients, 743 (73.6%) were included; 187 (25.2%) showed SIJ changes. Of these 187 patients, 164 (87.7%) had changes on plain radiographs, 88 (47.1%) had changes on CT, and 125 (66.8%) had changes on MRI. SIJ changes on any imaging modality were weakly correlated with pain to palpation of the SIJ ($r = 0.11$, $P = .004$) on physical examination. Pain to palpation of the SIJ on physical examination (odds ratio [OR], 1.12; $P = .031$) and a history of SIJ pain (OR, 1.93; $P = .018$) increased the odds of having an SIJ abnormality on any imaging modality. After matching, patients without SIJ abnormalities had a significantly greater HOS-ADL (95.4 vs 90.6, $P = .001$), HOS-SS (91.1 vs 77.5, $P < .001$), and mHHS (91.3 vs 84.5, $P < .001$) and a significantly lower VAS pain score (10.9 vs 25.7, $P < .001$) than patients with abnormalities at a mean follow-up of 34.1 ± 9.7 months (range, 24–54 months). Patients without SIJ abnormalities had greater odds of achieving the minimal clinically important difference for the HOS-ADL (OR, 2.91; $P = .001$) and for the HOS-SS (OR, 2.83; $P < .001$) but not for the mHHS (OR, 1.73; $P = .081$).

Conclusions

A high prevalence of SIJ abnormalities (25.2%) is seen on imaging in FAIS patients. These patients may show significantly inferior clinical outcomes and persistent postoperative pain after FAIS treatment. The results of this study may allow treating orthopaedic surgeons to better inform patients with SIJ abnormalities that they may not achieve clinically significant outcome improvement after hip arthroscopy.

Level of Evidence Level III, retrospective comparative study.

Athletic hip injuries per sport

Systematic Review

A Sport-specific Analysis of the Epidemiology of Hip Injuries in National Collegiate Athletic Association Athletes From 2009 to 2014Yehuda Kerbel M.D.^b Christopher M. Smith M.D.^c John Prodromo M.D.^b Jeffrey D. Trojan M.S.^d Mary K. Mulcahey M.D.^e<https://doi.org/10.1016/j.arthro.2019.03.044> Get rights and content

Arthroscopy: The Journal of Arthroscopic & Related Surgery, Volume 35, Issue 9, September 2019, Pages 2733-2735

Purpose

To describe the injury rates, mechanisms, time loss, and rates of surgery for hip/groin injuries in National Collegiate Athletic Association (NCAA) athletes across 25 collegiate sports during the 2009/10 to 2013/14 academic years.

Methods

Data from the 2009/10 to 2013/14 academic years were obtained from the NCAA Injury Surveillance Program (ISP). Rates of hip/groin injuries, mechanism of injury, time lost from competition, and surgical treatment were calculated. Differences between sex-comparable sports were quantified using rate ratios and injury proportion ratios. A sport-specific biomechanical classification system, which included cutting, impingement, overhead/asymmetric, endurance, and flexibility sports, was applied for subgroup analysis.

Results

In total, 1,984 hip injuries were reported in 25 NCAA sports, including 9 male and female sports, 3 male-only sports, and 4 female-only sports between the years 2009/10 and 2013/14, resulting in an overall hip injury rate of 53.1/100,000 athletic exposures (AEs). In sex-comparable sports, (basketball, cross-country, lacrosse, ice hockey, indoor track, outdoor track, soccer, swimming, and tennis), men were more commonly affected than women (59.53 vs 42.27 per 100,000 AEs respectively; rate ratio, 1.41; 95% confidence interval, 1.28-1.55). Subgroup analysis demonstrated that the highest rate of hip injuries per 100,000 AEs occurred in impingement sports (96.9). Endurance sports had the highest proportion of injured athletes with time lost >14 days (9.5%). For impingement-type sports, the most common mechanism of injury was no apparent contact (48.2%). The rate of athletes undergoing surgery per 100,000 AEs was highest in impingement-type sports (2.0).

Conclusions

We have identified that impingement-type sports are most frequently associated with hip injuries. Additionally, this study demonstrates that hip injuries sustained in athletes who played impingement-type sports had a significantly higher rate of surgical intervention than other sport classifications.

Level of Evidence Level III, prognostic study.

32 A. KNEE/ACL**ALL helps improve outcomes**

Arthroscopy. 2019 Sep;35(9):2648-2654. doi: 10.1016/j.arthro.2019.03.059. Epub 2019 Aug 14.

Combined Reconstruction of the Anterolateral Ligament in Patients With Anterior Cruciate Ligament Injury and Ligamentous Hyperlaxity Leads to Better Clinical Stability and a Lower Failure Rate Than Isolated Anterior Cruciate Ligament Reconstruction.

Helito CP¹, Sobrado MF², Giglio PN², Bonadio MB², Pécora JR², Camanho GL², Demange MK².

PURPOSE:

To compare functional outcomes, residual instability, and rupture rates in patients with ligamentous hyperlaxity undergoing isolated anterior cruciate ligament (ACL) reconstruction or combined ACL and anterolateral ligament (ALL) reconstruction.

METHODS:

Two groups of patients were evaluated and compared retrospectively. Both groups consisted of patients with ACL injuries and associated ligamentous hyperlaxity, defined based on the modified Beighton scale with a minimum score of 5. Group 1 patients underwent anatomical ACL reconstruction, and group 2 patients underwent anatomical ACL reconstruction combined with ALL reconstruction. Group 1 consisted of historical controls. The presence of associated meniscal injury, subjective International Knee Documentation Committee and Lysholm functional scores, KT-1000 measurements, the presence of a residual pivot-shift, and the graft rupture rate were evaluated. The study was performed at University of São Paulo in Brazil.

RESULTS:

Ninety patients undergoing ACL reconstruction with ligamentous hyperlaxity were evaluated. The mean follow up was 29.6 ± 6.2 months for group 1 and 28.1 ± 4.2 months for group 2 ($P = .51$). No significant differences were found between the groups regarding Beighton scale, gender, the duration of injury before reconstruction, follow-up time, preoperative instability, or associated meniscal injuries. The mean age was 29.9 ± 8.1 years in group 1 and 27.0 ± 9.1 years in group 2 ($P = .017$). In the final evaluation, group 2 patients showed better anteroposterior clinical stability as evaluated by KT-1000 arthrometry ($P = .02$), better rotational stability as evaluated by the pivot-shift test ($P = .03$) and a lower reconstruction failure rate (21.7% [group 1] vs 3.3% [group 2]; $P = .03$). Clinical evaluations of postoperative functional scales showed no differences between the 2 groups ($P = .27$ for International Knee Documentation Committee; $P = .41$ for Lysholm).

CONCLUSIONS:

Combined ACL and ALL reconstruction in patients with ligamentous hyperlaxity resulted in a lower failure rate and improved knee stability parameters compared to isolated ACL reconstruction. No differences were found in the functional scales.

LEVEL OF EVIDENCE: Level III, case control study.

35. KNEE/TOTAL**Evidence based approach underutilized**

Arthritis Care Res (Hoboken). 2019 Sep;71(9):1171-1177. doi: 10.1002/acr.23761.

Characteristics of Usual Physical Therapy Post-Total Knee Replacement and Their Associations With Functional Outcomes.

Oatis CA¹, Johnson JK², DeWan T³, Donahue K⁴, Li W⁵, Franklin PD⁵.

OBJECTIVE:

Although total knee replacement (TKR) surgery is highly prevalent and generally successful, functional outcomes post-TKR vary widely. Most patients receive some physical therapy (PT) following TKR, but PT practice is variable and associations between specific content and dose of PT interventions and functional outcomes are unknown. Research has identified exercise interventions associated with better outcomes but studies have not assessed whether such evidence has been translated into clinical practice. We characterized the content, dose, and progression of usual post-acute PT services following TKR, and examined associations of specific details of post-acute PT with patients' 6-month functional outcomes.

METHODS:

Post-acute PT data were collected from patients who were undergoing primary unilateral TKR and participating in a clinical trial of a phone-based coaching intervention. PT records from the terminal episode of care were reviewed and utilization and exercise content data were extracted. Descriptive statistics and linear regression models characterized PT treatment factors and identified associations with 6-month outcomes.

RESULTS:

We analyzed 112 records from 30 PT sites. Content and dose of specific exercises and incidence of progression varied widely. Open chain exercises were utilized more frequently than closed chain (median 21 [interquartile range (IQR) 4-49] versus median 13 [IQR 4-28.5]). Median (IQR) occurrence of progression of closed and open chain exercise was 0 (0-2) and 1 (0-3), respectively. Shorter timed stair climb was associated with greater total number of PT interventions and use and progression of closed chain exercises.

DISCUSSION:

Data suggest that evidence-based interventions are underutilized and dose may be insufficient to obtain optimal outcomes.

52. EXERCISE

Physical activity and health

BMC Public Health. 2019 Sep 9;19(1):1241. doi: 10.1186/s12889-019-7576-5.

Physical activity and emotional intelligence among undergraduate students: a correlational study.

Acebes-Sánchez J^{1,2}, Diez-Vega I³, Esteban-Gonzalo S⁴, Rodriguez-Romo G^{5,6}.

BACKGROUND:

Physical activity (PA) can be a mechanism that develops emotions. Emotional intelligence (EI) is related to significant public health and psychological benefits. However, there is little information about the relationships between PA and EI dimensions: emotional attention, clarity, and repair. This study examined the possible relationships between these variables in undergraduate students from Madrid. As a secondary aim, sex differences in PA domains and EI dimensions were examined.

METHODS:

A total of 2960 (21.34 ± 4.34 years) undergraduate students from Madrid (Spain) fulfilled the Trait Meta-Mood Scale (TMMS-24) and Global Physical Activity Questionnaire (GPAQ). We used a MANOVA to compare EI and PA levels according to sex. Different linear regressions were conducted to calculate the PA and age prediction power based on EI.

RESULTS:

We found a significant association between EI dimensions and PA levels, although these relationships were small. Fully adjusted linear regression showed that sex and leisure-time PA (LTPA) were associated of emotional attention ($r^2_c = .025$). Sex, age, and LTPA were associated of emotional repair ($r^2_c = .024$). There were statistically significant differences in EI by sex ($p \leq .001$; $\eta^2_p = .039$), with higher scores in emotional attention for women ($p \leq .001$) and emotional clarity ($p \leq .001$) and repair ($p \leq .001$) for men. PA levels differed according to sex ($p \leq .001$; $\eta^2_p = .038$). Men show higher scores in LTPA levels ($p = .002$) and occupational PA ($p \leq .001$).

CONCLUSIONS:

Undergraduate students with higher levels of LTPA showed a better score on EI, specifically in emotional attention and emotional repair. However, these associations and the predictive power of LTPA regarding emotional attention and emotional repair were weak. Men engaged in more LTPA and occupational PA and had higher emotional clarity and emotional repair than women. However, women had higher emotional attention.

53. CORE**Multifidus fatty infiltrate**

BMC Musculoskelet Disord. 2019 Sep 5;20(1):414. doi: 10.1186/s12891-019-2786-7.

Correlation between multifidus fatty atrophy and lumbar disc degeneration in low back pain.

Faur C¹, Patrascu JM¹, Haragus H², Anglitoiu B¹.

BACKGROUND:

Chronic low back pain (LBP) is common and associated with lumbar disc herniation. The purpose of this study was to investigate if the grade of lumbar disc degeneration correlates with the degree of lumbar multifidus muscle (LMM) fatty atrophy.

METHODS:

A retrospective analysis on 16 males and 19 females with chronic LBP and a mean age of 47.2 years. Using MRI, the grade of lumbar intervertebral discs degeneration was assessed according to the Pfirrmann classification at L4/L5 and L5/S1 levels. Fatty infiltration of the LMM was graded as normal, mild, moderate and severe. Adobe Photoshop CS6 was used for qualitative image analysis by measuring the Cross-sectional area (CSA) of the pure fat component of LMM.

RESULTS:

There was a low correlation ($R = 0.37$) and significant association (ANOVA, $p = 0.001$, 95% CI 2.07-8.14) between the grade of lumbar disc degeneration and the degree of LMM fatty atrophy. Mean value of intervertebral disc degeneration was 2.9 for the L4/L5 level and 3.2 for L5/S1 respectively. The percentage of fat infiltration of the LMM at both studied levels showed a mean value of 22.91 \pm 13.19% for L4/L5 and a higher mean value of 26.37 \pm 12.89% for L5/S1. There were higher fatty atrophy scores in women and more disc degeneration in men.

CONCLUSION:

The percentage of LMM atrophy is higher in the lower levels (L5/S1) and shows a low correlation with the grade of disc degeneration.

56. ATHLETICS

Soccer players after retirement

Depressive symptoms and the general health of retired professional footballers compared with the general population in the UK: a case-control study

Abstract

Objectives To determine the prevalence of depressive symptoms and general health of male ex-professional footballers compared with general population controls.

Methods 572 retired professional footballers and 500 general population controls in the UK were assessed by postal questionnaire. Anxiety and depressive symptoms were assessed using the Hospital Anxiety and Depression Scale and a threshold score of ≥ 11 was used to indicate probable caseness. General health was ascertained using the Short Form-12 Health Survey Questionnaire quality of life (QoL) tool; self-reported comorbidities, analgesic usage and body pain; and Index of Multiple Deprivation based on postcode data. Mood was assessed using the Positive and Negative Affect Scale and sleep using the Medical Outcome Survey. Linear regression analysis was used to determine adjusted relative risk with 95% CI and adjusted for age, body mass index, comorbidities, body pain and medication usage.

Results The prevalence of depressive symptoms in retired professional footballers was 5.66% compared with 5.76% in the general population and anxiety prevalence was also comparable (12.01% vs 10.29%; all $p > 0.05$). However, footballers had lower physical and mental component scores compared with controls ($p < 0.01$). They also reported significantly more sleep problems, more negative mood profiles and more widespread body pain (adjusted relative risk (aRR) 1.88, 95% CI 1.15 to 3.09). They also reported greater pain medication usage compared with controls (aRR 1.54, 95% CI 1.26 to 1.89). However, compared with controls, they were 26% (95% CI 15% to 37%) less likely to report comorbidities, especially heart attacks (aRR 57%, 95% CI 27% to 74%) and diabetes (aRR 61%, 95% CI 37% to 76%).

Conclusions The prevalence of depressive symptoms and anxiety symptoms and probable caseness in ex-professional footballers is comparable with general population controls. However, ex-footballers reported lower health-related QoL, more widespread body pain and higher analgesic usage. Conversely, lower reporting of diabetes and heart attacks indicates potential long-term physical health benefits of professional football.

This is an open access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited, appropriate credit is given, any changes made indicated, and the use is non-commercial. See: <http://creativecommons.org/licenses/by-nc/4.0/>.

Soft ball mechanics

Clin J Sport Med. 2019 Sep;29(5):406-412. doi: 10.1097/JSM.0000000000000692.

Clinical and Biomechanical Evaluation of the Softball Pitcher: A Review of Current Concepts and Clinical Commentary.

Fry KE¹, Wittman K¹, Gerke D², Parr A³.

BACKGROUND:

The windmill softball pitch (WSP) is a vastly understudied human motion relative to its counterpart the overhand baseball pitch (OBP). A large body of research has been conducted to understand the kinematics and kinetics of the OBP. Better understanding of the kinematics and kinetics of the WSP may help provide better pitch volume guidelines, physical performance preparation, and injury prevention programs.

EVIDENCE ACQUISITION:

A comprehensive review of the literature was performed to gain a full understanding of all currently available biomechanical and clinical evidence surrounding the WSP and related softball injuries.

STUDY DESIGN:

Clinical Review.

LEVEL OF EVIDENCE:

Level 5.

RESULTS:

The softball pitch is a highly complex series of coordinated movements, in which the force generated by the large muscles of the lower extremity and trunk during the wind-up and stride phases are transferred to the ball through the shoulder and arm. Biomechanical evidence has demonstrated relatively equivocal distraction forces at the shoulder for both the softball pitch and baseball pitch.

CONCLUSIONS:

Altered pitching biomechanics, high pitch velocity, elevated pitch counts, decreased rest between outings, and increased pitcher fatigue may increase tissue stress on the upper extremity of a softball pitcher. There is convincing evidence that each of these variables have a compounding effect on injury risk for a softball pitcher. Therefore, coaches and clinicians need more research to promote upper extremity health in the softball pitcher at all levels of competition including pitch volume guidelines and injury prevention strategies.

59. PAIN**Early mobilization of ICU patients beneficial****Early mobilization of trauma patients admitted to intensive care units: a systematic review and meta-analyses**panel Sean D. Higgins^{1,2} Mete Erdogan² Sherry J. Coles^{1,2}<https://doi.org/10.1016/j.injury.2019.09.007> Get rights and content**Highlights**

- Trauma ICU patients who were mobilized early required fewer days of mechanical ventilation compared to those receiving usual care.
- Mortality and length of stay were similar between patients who received early mobilization versus usual care.
- Few studies have investigated the effects of early mobilization in the trauma ICU population; more research in this area is needed.

Abstract**Objective**

To determine the effect of early mobilization (EM) in trauma patients admitted to the ICU. Outcomes of interest included mortality, hospital and ICU length of stay (LOS), and duration of mechanical ventilation.

Methods

We performed a systematic review of 4 electronic databases (Ovid MEDLINE, Embase, CINAHL, Cochrane Library) and the grey literature. Eligible study designs included randomized control trials, prospective cohorts, or retrospective cohorts. Studies must have compared EM to usual care (i.e., delayed or no mobilization) in trauma patients admitted to ICU. Overall, there were 2,982 articles screened and 9 were included in the analysis. Two authors independently performed data extraction using a standardized form. Pertinent study design and population characteristics were recorded, as were prespecified outcome measures. Meta-analyses were performed using random effects models. Study quality was assessed using the Newcastle-Ottawa Scale.

Results

Study cohorts ranged from 15 to 1,132 patients (median 63) and varied in their inclusion criteria. Most studies utilized a progressive mobility protocol as their intervention. Mortality was reported in 5 studies, of which 3 observed a lower rate with EM; however, meta-analysis showed no difference in mortality between patients mobilized early and those receiving usual care. Eight studies reported on LOS (in-hospital and ICU); although all 8 studies found EM reduced LOS, the difference in LOS was not significant on meta-analysis. Finally, 3 studies reported on ventilator days, all of which observed a reduction in the EM group. On meta-analysis, duration of mechanical ventilation was significantly lower with EM (mean difference -1.18 days, 95% CI, -2.17 – -0.19).

Conclusions

Few studies have investigated the effects of EM in trauma ICU patients. The available evidence suggests that patients who receive EM require fewer days of mechanical ventilation, but have similar mortality and LOS compared to those receiving usual care.

62 A. NUTRITION/VITAMINS**Tea consumptions linked to reduced risk of depression****Association between tea consumption and depressive symptom among Chinese older adults**

BMC Geriatrics

Shen K, et al. | September 06, 2019

Using the panel data from 2005, 2008/2009, 2011/2012 and 2014 waves of Chinese Longitudinal Healthy Longevity Survey, researchers assessed depressive symptoms of older adults in correlation with the frequency and duration of tea drinking across genders and age groups. They used a five-item scale to evaluate depressive symptoms and applied linear mixed effects models. Findings revealed significantly less depressive symptoms in relation to consistent and frequent tea-drinking; this effect was in part mediated by socioeconomic status, health behavior, physical health, cognitive function, and social engagement. However, the link was only significant for males and the oldest-old, rather than females and younger elders.

Experts concluded that an effective reduction in the risk of depressive symptoms in the Chinese elderly may be brought about by consistent and frequent tea-drinking. They also regarded tea-drinking promotion, which is a component of the traditional lifestyle, as a cost-effective approach towards healthy aging for China.

63. PHARMACOLOGY

OA /NSAID use and CV disease

Arthritis Rheumatol. 2019 Aug 6. doi: 10.1002/art.41027.

Role of Nonsteroidal Antiinflammatory Drugs in the Association Between Osteoarthritis and Cardiovascular Diseases: A Longitudinal Study.

Atiquzzaman M¹, Karim ME¹, Kopec J¹, Wong H¹, Anis AH¹.

OBJECTIVE:

To elucidate the role of nonsteroidal antiinflammatory drugs (NSAIDs) in the increased risk of cardiovascular disease (CVD) among osteoarthritis (OA) patients.

METHODS:

This longitudinal study was based on linked health administrative data from British Columbia, Canada. From a population-based cohort of 720,055 British Columbians, we selected 7,743 OA patients and 23,229 age- and sex-matched non-OA controls. We used multivariable Cox proportional hazards models to estimate the risk of developing incident CVD (primary outcome) as well as ischemic heart disease, congestive heart failure, and stroke (secondary outcomes). To estimate the mediating effect of NSAIDs, defined as current use of an NSAID according to linked PharmaNet data, in the OA-CVD relationship, we implemented a marginal structural model.

RESULTS:

OA patients had a higher risk of developing CVD than controls without OA. After adjusting for socioeconomic status, body mass index, hypertension, diabetes, hyperlipidemia, chronic obstructive pulmonary disease, and Romano comorbidity score, the adjusted hazard ratio (HR) was 1.23 (95% confidence interval [95% CI] 1.17-1.28). The adjusted HRs for congestive heart failure, ischemic heart disease, and stroke were 1.42 (95% CI 1.33-1.51), 1.17 (95% CI 1.10-1.26), and 1.14 (95% CI 1.07-1.22), respectively. Approximately 41% of the total effect of OA on increased CVD risk was mediated through NSAIDs. For the secondary outcomes, the proportion mediated through NSAIDs was 23%, 56%, and 64% for congestive heart failure, ischemic heart disease, and stroke, respectively.

CONCLUSION:

The findings of this first study to evaluate the mediating role of NSAIDs in the relationship between OA and CVD suggest that NSAID use contributes substantially to the OA-CVD association.

Parental opioid use and children suicide

Association between parental medical claims for opioid prescriptions and risk of suicide attempt by their children

JAMA — Brent DA, et al. | September 09, 2019

Via a pharmacoepidemiologic study done from January 1, 2010, to December 31, 2016, researchers investigated the possible relationship between parental use of prescription opioids and the rising rate of youth suicide. A total of 148,395 and 184,142 children had parents who did not use opioids and children with parents who did use opioids, respectively.

There were 100,899 children aged 10 to 14 years and 47,496 children aged 15 to 19 years with parents who did not use opioids and 96,975 children aged 10 to 14 years and 87,163 children aged 15 to 19 years with parents who did consume opioids. Of , A total of 212 of the children with parents who did not use opioids, attempted suicide and of the children with parents who did use opioids, 678 attempted suicide. Parental use of opioids was related to a doubling of the risk of a suicide attempt by their offspring. The correlation continued to be important following adjusting for child age and gender, addition of child and parental depression and diagnoses of substance use disorder, and addition of parental history of suicide attempts. Geographical differences in opioid use did not alter the correlation.

Thus, children of parents who use prescription opioids are at progressed risk for suicide attempts, which could be a giving factor to the time trend in adolescent suicidality. The care of families with a parent who consumes opioids should involve mental health screening of their children.