

7. PELVIC ORGANS/WOMAN'S HEALTH

Hypertension and spectrum disorders

JAMA Psychiatry. 2018 Jun 6. doi: 10.1001/jamapsychiatry.2018.0854.

Association of Hypertensive Disorders of Pregnancy With Risk of Neurodevelopmental Disorders in Offspring: A Systematic Review and Meta-analysis.

Maher GM^{1,2}, O'Keeffe GW^{1,3}, Kearney PM², Kenny LC⁴, Dinan TG^{5,6}, Mattsson M^{1,7}, Khashan AS^{1,2}.

IMPORTANCE:

Although research suggests an association between hypertensive disorders of pregnancy (HDP) and autism spectrum disorder (ASD), attention-deficit/hyperactivity disorder (ADHD), and other neurodevelopmental disorders in offspring, consensus is lacking. Given the increasing prevalence of hypertension in pregnancy, it is important to examine the association of HDP with neurodevelopmental outcome.

OBJECTIVE: To synthesize the published literature on the association between HDP and risk of neurodevelopmental disorders in offspring in a systematic review and meta-analysis.

DATA SOURCES: On the basis of a preprepared protocol, a systematic search of PubMed, CINAHL, Embase, PsycINFO, and Web of Science was performed from inception through June 7, 2017, supplemented by hand searching of reference lists.

STUDY SELECTION: Two investigators independently reviewed titles, abstracts, and full-text articles. English-language cohort and case-control studies were included in which HDP and neurodevelopmental disorders were reported.

DATA EXTRACTION AND SYNTHESIS:

Data extraction and quality appraisal were performed independently by 2 reviewers. Meta-analysis of Observational Studies in Epidemiology (MOOSE) guidelines were followed throughout.

MAIN OUTCOMES AND MEASURES:

Random-effects meta-analyses of estimated pooled odds ratios (ORs) for HDP and ASD and for HDP and ADHD. Stand-alone estimates were reported for all other neurodevelopmental disorders.

RESULTS:

Of 1166 studies identified, 61 unique articles met inclusion criteria. Twenty studies reported estimates for ASD. Eleven of these (including 777 518 participants) reported adjusted estimates, with a pooled adjusted OR of 1.35 (95% CI, 1.11-1.64). Ten studies reported estimates for ADHD. Six of these (including 1 395 605 participants) reported adjusted estimates, with a pooled adjusted OR of 1.29 (95% CI, 1.22-1.36). Subgroup analyses according to type of exposure (ie, preeclampsia or other HDP) showed no statistically significant differences for ASD or ADHD. Thirty-one studies met inclusion criteria for all other neurodevelopmental disorders. Individual estimates reported for these were largely inconsistent, with few patterns of association observed.

CONCLUSIONS AND RELEVANCE:

Exposure to HDP may be associated with an increase in the risk of ASD and ADHD. These findings highlight the need for greater pediatric surveillance of infants exposed to HDP to allow early intervention that may improve neurodevelopmental outcome.

Green tea and breast cancer

Phytother Res. 2018 Jun 7. doi: 10.1002/ptr.6124.

The association between green tea consumption and breast cancer risk: A systematic review and meta-analysis.

Najaf Najafi M¹, Salehi M^{1,2}, Ghazanfarpour M³, Hoseini ZS⁴, Khadem-Rezaiyan M⁵.

This systematic review and meta-analysis aimed to critically evaluate the relation between green tea (GT) consumption and the risk of breast cancer. Popular electronic databases were systematically searched for papers in English language. All case-control and cohort studies in addition to randomized clinical trials were included if they assessed the chemopreventive effects of GT on breast cancer. The quality of included studies was assessed using the Newcastle-Ottawa and Jadad scale. This systematic review comprised 14 studies: 9 case-control studies, 4 cohort studies, and 1 clinical trial. Odds ratio (OR) in case-control studies suggested that women in the group receiving the highest level of GT had 19% reduction in breast cancer risk compared with those who received the lowest level of GT (summary OR = 0.81, $p = .031$; 95% CI [0.66, 0.981]; heterogeneity, $I^2 = 71.53$, $p < .001$, random effect model; 9 studies). OR in cohort studies also showed no significant difference (OR = 0.99, $p = .94$; 95% CI [0.81, 1.138]; heterogeneity, $I^2 = 19.06$, $p = .29$; fixed-effect model; 4 studies). According to the only clinical trial, treatment with GT could not alter the mammographic density compared with placebo (26% vs. 25%). It cannot be concluded that GT consumption may decrease the risk of breast cancer. Due to high heterogeneity, a pooled analysis of case-control and cohort studies was not performed.

8. VISCERA

IBD exacerbations

J Gastroenterol Hepatol. 2018 Apr 17. doi: 10.1111/jgh.14258.

Predictors and clinical outcomes of follow-up loss in patients with inflammatory bowel disease.

Woo DH¹, Kim KO¹, Kang MK¹, Lee SH¹, Jang BI¹, Kim TN¹.

BACKGROUND AND AIM:

Nonadherence is a risk factor of disease worsening in inflammatory bowel disease (IBD). We analyzed the frequency, predictors, and clinical outcomes of patients with IBD who are lost to follow-up in outpatient clinics.

METHODS:

Medical records of 784 IBD patients visiting our IBD clinic between January 2010 and December 2015 were reviewed retrospectively. Overall, 285 newly diagnosed IBD patients who were followed up for at least 12 months were included in the analysis.

RESULTS:

For 285 IBD patients (161 ulcerative colitis and 124 Crohn's disease), the mean disease duration was 66.3 ± 34.0 months (7-137 months). Forty-two patients (14.7%; 27 ulcerative colitis and 15 Crohn's disease) were lost to follow-up. On multivariate regression analysis, travel time to clinic (odds ratio, 2.37; 95% confidence interval, 1.63-3.45; $P = 0.01$) and C-reactive protein levels at diagnosis (odds ratio, 0.63; 95% confidence interval, 0.43-0.68; $P = 0.01$) were significantly associated with follow-up loss. Among the 42 patients lost to follow-up, 36 (85.7%) revisited the clinic. The cause of revisit was disease flare-up in 22 patients (61.1%). Step-up treatment was needed in 15 patients (41.7%). Steroid was introduced in 14 patients (38.9%). Azathioprine and an antitumor necrosis factor agent were newly prescribed in three patients (8.3%) and one patient (2.8%), respectively.

CONCLUSIONS:

Follow-up loss rate for IBD patients in remission state was 14.7%, and the predictors were far from hospital and low C-reactive protein levels. Because most of follow-up loss patients experienced flare-up, clinicians need to try to encourage patients to keep their adherence.

12 B. CERVICAL SURGERIES**O-1 fusion and adjacent segments**

Arch Orthop Trauma Surg. 2018 Jul;138(7):921-927. doi: 10.1007/s00402-018-2929-6. Epub 2018 Apr 21.

Incidence and risk factors for adjacent segment degeneration following occipitoaxial fusion for atlantoaxial instability in non-rheumatoid arthritis.

Wu X^{1,2}, Qi Y^{1,3}, Tan M^{4,5}, Yi P¹, Yang F¹, Tang X¹, Hao Q¹.

PURPOSE:

To investigate the incidence and risk factors for adjacent segment degeneration (ASD) following occipitoaxial fusion (OAF) for atlantoaxial instability (AAI) in non-rheumatoid arthritis (RA).

METHODS:

The study group comprised 41 patients without RA who underwent OAF due to AAI. Fifteen patients with postoperative ASD after OAF were classified as the ASD group, and the other 26 patients without postoperative ASD were included in the non-ASD group. There were 12 men and 3 women with a mean age of 43.52 years in the ASD group, and 19 men and 7 women with a mean age of 45.31 years in the non-ASD group. The mean follow-up period was 6.1 and 5.9 years in the ASD group and non-ASD group, respectively. Clinical outcomes and plain radiographs were retrospectively reviewed and compared between the two groups.

RESULTS:

The difference between pre- and postoperative O-C2 angles in the non-ASD group was significantly greater than that in the ASD group. The C2-7 angles changed significantly between the pre- and postoperative periods. It was suggested that the small O-C2 angle and large C2-7 angle observed in the early postoperative period were risk factors for the development of ASD. We also demonstrated a high incidence of subaxial subluxation (SAS) and swan neck deformity in the ASD group (27 versus 3.8% and 20 versus 0%, respectively).

CONCLUSION:

Under-correction of the O-C2 angle is likely to cause malalignment of the cervical spine, resulting in the development of postoperative ASD, SAS, and swan neck deformity.

13 B. TMJ/ORAL**Periodontitis and erectile dysfunction**

J Clin Periodontol. 2018 May 3. doi: 10.1111/jcpe.12909.

Chronic periodontitis is associated with erectile dysfunction. A case-control study in european population.

Martín A¹, Bravo M², Arrabal M³, Magán-Fernández A¹, Mesa F¹.

AIM:

To determine the association between chronic periodontitis and erectile dysfunction adjusting for biochemical markers and other comorbidities.

METHODS:

A case-control study was conducted on 158 male patients; 80 cases with erectile dysfunction according to the International Index of Erectile Function and 78 controls. Sociodemographic data were gathered, and a periodontal examination was performed. Testosterone, lipid profile, C-reactive protein and glycaemic parameters were assessed. All variables were compared between groups, and multivariate logistic regression analyses were performed.

RESULTS:

74% of the cases were diagnosed with chronic periodontitis. Number of sites with pocket probing depth 4-6 mm ($p = 0.05$) and number of sites with clinical attachment loss >3 mm ($p < 0.01$) were higher in the cases. Triglycerides ($p < 0.01$), C-reactive protein ($p = 0.02$) and glycosylated haemoglobin ($p = 0.04$) were also higher in the cases. Logistic regression showed that patients with chronic periodontitis were more likely to have erectile dysfunction (OR=2.17; 95% CI (1.06-4.43); $p = 0.03$) independently of other confounders.

CONCLUSION:

Patients with erectile dysfunction showed worse periodontal condition. Chronic periodontitis seems to play a key role as a risk factor in the pathogenesis of erectile dysfunction independently of other morbidities.

Sleep disturbance and joint pain**Bidirectional association between disturbed sleep and neuropathic pain symptoms: a prospective cohort study in post-total joint replacement participants**

Authors Stocks J, Tang NKY, Walsh DA, Warner SC, Harvey HL, Jenkins W, Abhishek A, Doherty M, Valdes AM

DOI <https://doi.org/10.2147/JPR.S149830>

Background: Disturbed sleep is strongly correlated with chronic pain. The aim of this study was to examine the association between sleep disturbance and incident joint pain focusing on neuropathic-like pain symptoms.

Methods: A total of 423 individuals who had undergone total joint replacement (TJR) for osteoarthritis were assessed at the mean time of 3.6 years post-surgery and again at 5.9 years post-TJR, using the Medical Outcomes Survey sleep subscale, Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC), and painDETECT questionnaire instruments. Cox hazard ratios (HRs) and 95% confidence intervals (CIs) were computed adjusting for age, body mass index, sex, and use of hypnotic and analgesic medication.

Results: The presence of neuropathic pain symptoms predicted incidence of disturbed sleep after adjustment for covariates and pain severity (adjusted HR [aHR] 2.01, 95% CI: 1.00–4.10; $p < 0.05$). There was no association between joint pain and incidence of disturbed sleep when individuals with neuropathic pain symptoms at the baseline visit were excluded (aHR 1.11, 95% CI: 0.47–2.67). Disturbed sleep at baseline predicted incident neuropathic joint pain symptoms (aHR 2.75, 95% CI: 1.21–6.26; $p < 0.016$) but had no effect on incidence of joint pain when all types of pain were considered together (aHR 0.63, 95% CI: 0.30–1.39).

Conclusion: These data suggest a causal bidirectional link between sleep disturbance and joint pain with neuropathic features but not with other types of joint pain.

Keywords: total joint replacement, opioids, osteoarthritis

13 C. AIRWAYS/SWALLOWING/SPEECH**Sleep and neuropathic pain****Bidirectional association between disturbed sleep and neuropathic pain symptoms: a prospective cohort study in post-total joint replacement participants**

Authors Stocks J, Tang NKY, Walsh DA, Warner SC, Harvey HL, Jenkins W, Abhishek A, Doherty M, Valdes AM

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Conclusion: These data suggest a causal bidirectional link between sleep disturbance and joint pain with neuropathic features but not with other types of joint pain.

OSA in children and cognition

Sleep Medicine

Original Article

Association between mild or moderate obstructive sleep apnea hypopnea syndrome and cognitive dysfunction in children

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<https://doi.org/10.1016/j.sleep.2018.04.009>Get rights and content

Highlights

- Young children (<6 years) with OSAHS had lower scores of full scale and verbal IQ.
- Young children with OSAHS performed less well in comprehension tests and visual analysis.
- The accumulated time of $SO_2 < 90\%$ correlated with PIQ negatively in pediatric OSAHS.

Abstract**Background**

Childhood obstructive sleep apnea–hypopnea syndrome (OSAHS), the most common sleep-related breathing disorder, may lead to cognitive impairment. This study aims to investigate the association between mild or moderate childhood OSAHS and cognitive dysfunction.

Methods

A total of 59 children (4–12 years of age) diagnosed with mild or moderate OSAHS by polysomnography and 60 age- and sex-matched healthy children were included in the study. The China-Wechsler Younger Children Scale of Intelligence and China-Wechsler Intelligence Scale for Children were used to evaluate the cognition of the participating children aged <6 years and ≥6 years, respectively.

Results

In the <6-years-old subgroup, children with OSAHS had significantly lower scores of full-scale IQ (FIQ), verbal IQ (VIQ), comprehension test, and visual analysis than the healthy children (all $p < 0.05$). In the ≥6-years-old subgroup, VIQ and classification test scores were significantly lower in children with OSAHS than in the healthy controls (all $p < 0.05$). FIQ, VIQ, and performance IQ (PIQ) scores did not correlate with AHI, OAHl, and the lowest nocturnal SO_2 . Notably, in the <6-years-old subgroup of OSAHS, the accumulated time of $SO_2 < 90\%$ ($p = 0.046$) and the percentage of the accumulated time of $SO_2 < 90\%$ in the total sleep time ($p = 0.034$) correlated with PIQ negatively and significantly.

Conclusions

Mild to moderate childhood OSAHS may adversely affect cognitive function, particularly in young children (<6 years of age). This study may increase the awareness of childhood OSAHS-associated cognitive dysfunction and advocate early interventions in childhood OSAHS.

Body mass and sleep disorders**Sleep Medicine****Original Article****The influence of body mass on long-term cognitive performance of children treated for Sleep Disordered Breathing**

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<https://doi.org/10.1016/j.sleep.2018.05.021> Get rights and content

Highlights

- Adenotonsillectomy is effective in reducing severity of sleep disordered breathing in the longer term during childhood.
- However, adenotonsillectomy results in little longer term recovery of neurocognitive performance in children.
- Body mass may place children with SDB at increased risk of neurocognitive performance deficits.

Abstract**Background**

Long-term follow-up of children treated for sleep disordered breathing (SDB) is limited, as is the examination of factors potentially contributing to recovery. This study aimed to examine whether recovery of neurocognitive function is achieved four years post-adenotonsillectomy for sleep disordered breathing (SDB) in children, and whether body mass status influences the outcome.

Methods

This prospective longitudinal study of 3-12 year old children recruited from an otolaryngology clinic compared cognitive performance, sleep, ventilation and body mass before and at 4 years post-adenotonsillectomy in SDB children, and compared this to untreated healthy controls over the same time points.

Results

Children were categorised as normal weight control (n=33), normal weight SDB (n=18) or overweight/obese SDB (n=11). Body mass did not significantly differ at 4-year follow-up compared to baseline in any subgroup ($p > .05$), and groups were matched on age and gender. Despite improved sleep and nocturnal ventilation at four years post-adenotonsillectomy, little gain was observed in neurocognitive performance in either non-obese or overweight/obese children with SDB. Overweight/obese children with SDB displayed worse neurocognitive performance compared to all other children.

Conclusion

Adenotonsillectomy improves nocturnal ventilation and sleep quality but not neurocognitive performance long term. Excess body mass may place children with SDB at increased risk of neurocognitive performance deficits.

Cognitive decline and sleep

Dement Geriatr Cogn Disord. 2018 Jun 8;45(3-4):232-242. doi: 10.1159/000488671.

Sleep Disturbance and the Risk of Cognitive Decline or Clinical Conversion in the ADNI Cohort.

Mecca AP^{1,2,3}, Michalak HR^{1,2}, McDonald JW^{1,2}, Kemp EC^{1,2}, Pugh EA^{1,2}, Becker ML^{1,2}, Mecca MC^{3,4}, van Dyck CH^{1,2,5,6}, The Alzheimer's Disease Neuroimaging Initiative (ADNI).

BACKGROUND:

We investigated the relationship between sleep disturbance and cognitive decline or clinical conversion in individuals with normal cognition (CN), as well as those with mild cognitive impairment (MCI) and dementia due to Alzheimer disease (AD-dementia).

METHODS:

Secondary analysis of 1,629 adults between 48 and 91 years of age with up to 24 months of follow-up from the ADNI (Alzheimer's Disease Neuroimaging Initiative), a longitudinal cohort study.

RESULTS:

Sleep disturbance was not associated with decline in memory, executive function, or global cognition. The presence of sleep disturbance did not significantly increase the risk of diagnostic conversion in CN, early MCI, or late MCI participants.

CONCLUSION:

This study investigated the effect of sleep disturbance on cognitive decline using several outcomes and does not support the hypothesis that sleep disturbance predicts subsequent cognitive decline.

Sleep and mortality

J Am Geriatr Soc. 2018 Jun 6. doi: 10.1111/jgs.15446.

Association Between Daily Sleep Duration and Risk of Dementia and Mortality in a Japanese Community.

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Author information**Abstract****OBJECTIVES:**

To investigate the association between daily sleep duration and risk of dementia and death in a Japanese elderly population.

DESIGN:

Prospective cohort study.

SETTING:

The Hisayama Study, Japan.

PARTICIPANTS:

Community-dwelling Japanese individuals aged 60 and older without dementia.

MEASUREMENTS:

Self-reported daily sleep duration was grouped into 5 categories (<5.0, 5.0-6.9, 7.0-7.9, 8.0-9.9, ≥10.0 hours). The association between daily sleep duration and risk of dementia and death was determined using a Cox proportional hazards models.

RESULTS:

During follow-up, 294 participants developed dementia, and 282 died. Age- and sex-adjusted incidence rates of dementia and all-cause mortality were significantly greater in subjects with daily sleep duration of less than 5.0 hours and 10.0 hours and more than in those with daily sleep duration of 5.0 to 6.9 hours. These associations remained unchanged after adjustment for potential confounding factors (<5.0 hours: hazard ratio (HR)=2.64, 95% confidence interval (CI)=1.38-5.05 for dementia; HR=2.29, 95% CI=1.15-4.56 for death; ≥10.0 hours: HR=2.23, 95% CI=1.42-3.49 for dementia; HR=1.67, 95% CI=1.07-2.60 for death). Similar U-shaped associations were observed for Alzheimer's disease and vascular dementia. With regard to the influence of hypnotic use on risk of dementia and death, subjects who used hypnotics and had any sleep duration had a risk of dementia that was 1.66 times as great and a risk of death that was 1.83 times as great as those who did not use hypnotics and had a daily sleep duration of 5.0 to 6.9 hours.

CONCLUSION:

Short and long daily sleep duration and hypnotic use are risk factors for dementia and death in Japanese elderly adults.

Sleep deprivation and depression

BMC Public Health

December 2018, 18:724|

Chronic sleep deprivation and gender-specific risk of depression in adolescents: a prospective population-based study

- Annalijn I. Conklin Christopher A. Yao Christopher G. Richardson

Background

Chronic exposure to sleep deprivation may increase the risk of depression in young people who are particularly vulnerable to changes in sleep and mental health. Sleep deprivation and incident depression may also differ by gender. We investigated the prospective association between cumulative sleep deprivation and subsequent levels of depressive symptomatology among adolescents from a gender perspective.

Methods

A longitudinal study of 3071 young people in the British Columbia Adolescent Substance Use Survey (BASUS) cohort with three sleep time and two depression measures over 12 months (2011–12). Multivariable linear regression models with interaction terms estimated gender-specific associations between self-reported chronic sleep deprivation and changes in depressive symptomatology; post-estimation analysis calculated adjusted mean depression scores for each level of cumulative sleep deprivation.

Results

Cumulative sleep deprivation was associated with a monotonic increase in depression scores at follow-up in young women, but no consistent pattern was seen in young men. During follow-up, 15% of young women were chronically sleep deprived and 29% were depressed (CESD ≥ 24). Young women reporting chronic exposure to sleep deprivation had higher CESD scores at follow-up (21.50 points, [CI95 19.55–23.45]), than those reporting no history (16.59 [15.72–17.45]); that remained after multivariable adjustment (19.48 [17.59–21.38]).

Conclusion

Results suggested that chronic sleep deprivation increases the risk of major depression among young women. Mental health promotion for young people should include relevant strategies to ensure young women can achieve recommended amounts of sleep.

14. HEADACHES

Adolescent migraines

Research Submissions

CBT for Pediatric Migraine: A Qualitative Study of Patient and Parent Experience

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<https://doi.org/10.1111/head.13285>

Objective

The goal of this study was to determine which cognitive behavioral therapy (CBT-HA) treatment components pediatric headache patient stakeholders would report to be most helpful and essential to reducing headache frequency and related disability to develop a streamlined, less burdensome treatment package that would be more accessible to patients and families.

Background

Pediatric migraine is a prevalent and disabling condition. CBT-HA has been shown to reduce headache frequency and related disability, but may not be readily available or accepted by many migraine sufferers due to treatment burden entailed. Research is needed to determine systematic ways of reducing barriers to CBT-HA.

Methods

Qualitative interviews were conducted with 10 patients and 9 of their parents who had undergone CBT-HA. Interviews were analyzed using an inductive thematic analysis approach based upon modified grounded theory. Patients were 13-17.5 years of age ($M = 15.4$, $SD = 1.63$) and had undergone CBT-HA ~1-2 years prior to participating in the study.

Results

Overall, patients and their parents reported that CBT-HA was helpful in reducing headache frequency and related disability. Although patients provided mixed reports on the effectiveness of different CBT-HA skills, the majority of patients indicated that the mind and body relaxation skills of CBT-HA (deep breathing, progressive muscle relaxation, and activity pacing in particular) were the most helpful and most frequently used skills. Patients and parents also generally reported that treatment was easy to learn, and noted at least some aspect of treatment was enjoyable.

Conclusions

Results from these qualitative interviews indicate that mind and body CBT-HA relaxation skills emerged as popular and effective based on patient and parent report. Future research examining the effectiveness of streamlined pediatric migraine nonpharmacological interventions should include these patient-preferred skills.

22 B. INSTABILITY

Surgery helps

Archives of Orthopaedic and Trauma Surgery pp 1–6|

Mid-term clinical results of an arthroscopic glenoid rim reconstruction technique for recurrent anterior shoulder instability

- Benjamin Bockmann Arne Johannes Venjakob Frank Reichwein arthe Hagenacker Wolfgang Nebelung

Introduction

Glenoid bone loss in recurrent anterior instability of the shoulder needs to be addressed to restore joint stability. Over the last years, several arthroscopic methods have been described to treat this condition. However, no clinical mid-term results have been presented for arthroscopic iliac crest bone grafting procedures.

Methods

We included 32 patients with significant glenoid bone loss and repetitive dislocations of the shoulder who were treated in our shoulder unit with a previously described all-arthroscopic reconstruction technique. All patients filled out a questionnaire evaluating repetitive dislocations, consumption of pain medicine, Constant Score (CS, adapted to age and gender), activities of daily living (ADL), visual analogue scale for pain (VAS) as well as the Western Ontario Shoulder Instability Index (WOSI). Additionally, all complications were recorded.

Results

After a mean follow-up of 42 months, three traumatic dislocations had been observed. With an ADL of 25 points (95% CI 24–27), a WOSI of 71% (95% CI 65–76) and CS of 87 points (95% CI 82–92), our patients showed good functional results. The VAS result for pain was 2.1 (95% CI 1.5–2.6). No patient reported the regular usage of pain medicine related to the shoulder instability at final follow-up.

Conclusion

The all-arthroscopic glenoid reconstruction using iliac crest grafts shows good functional results with a recurrence rate of 9%. At final follow-up 42 months after surgery, our patients showed low pain levels and acceptable complications.

28. REPLACEMENTS

Changes in rotation

The influence of patient factors on femoral rotation after total hip arthroplasty

- Taro Tezuka Yutaka Inaba, Naomi Kobayashi, Hyonmin Choe, Syota Higashihira and Tomoyuki Saito

BMC Musculoskeletal Disorders 2018 **19**:189
<https://doi.org/10.1186/s12891-018-2110-y>

Background

A postoperative change in femoral rotation following total hip arthroplasty (THA) might be the cause of dislocation due to the change in combined anteversion. However, very few studies have evaluated the femoral rotation angle following THA, or the factors that influence femoral rotation. We aimed to evaluate changes in femoral rotation after THA, and to investigate preoperative patient factors that influence femoral rotation after THA.

Methods

This study involved 211 hips treated with primary THA. We used computed tomography to measure the femoral rotation angle before and one week after THA. In addition, multiple regression analysis was performed to evaluate preoperative patient factors that could influence femoral rotation after THA.

Results

The femoral rotation angle was $0.2 \pm 14^\circ$ externally before surgery and $4.4 \pm 12^\circ$ internally after surgery ($p < 0.001$). Multiple regression analysis revealed that sex ($\beta = 0.19$; $p = 0.003$), age ($\beta = 0.15$; $p = 0.017$), preoperative anatomical femoral anteversion ($\beta = -0.25$; $p = 0.002$), and preoperative femoral rotation angle ($\beta = 0.36$; $p < 0.001$) were significantly associated with the postoperative femoral rotation angle. The final model of the regression formula was described by the following equation: [*postoperative femoral rotation angle* = $5.41 \times \text{sex}$ (female: 0, male: 1) + $0.15 \times \text{age}$ - $0.22 \times \text{preoperative anatomical femoral anteversion}$ + $0.33 \times \text{preoperative femoral rotation angle}$ - 10.1].

Conclusion

The current study showed the mean internal change of 4.6° in the femoral rotation angle one week after THA. Sex, age, preoperative anatomical femoral anteversion and preoperative femoral rotation were associated with postoperative femoral rotation. The patients who were male, older, and who exhibited lesser preoperative anatomical femoral anteversion or greater preoperative femoral rotation angles, tended to demonstrate an externally rotated femur after THA. Conversely, patients who were female, younger, and who exhibited greater preoperative anatomical femoral anteversion or lesser preoperative femoral rotation angles, tended to demonstrate an internal rotation of the femur after THA.

Gait abnormalities predict risk of falls

The Journal of Arthroplasty

Gait abnormality predicts falls in women after total hip arthroplasty

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<https://doi.org/10.1016/j.arth.2018.05.044>

Background

Patients who undergo total hip arthroplasty (THA) have an increased risk of falls during the first year postoperatively. However, risk factors for falls after THA remain unclear. We investigated the relationship between gait abnormality and falls during the first year after THA.

Methods

We conducted a prospective cohort study of 286 patients with severe hip osteoarthritis who underwent THA and examined fall history during the first year postoperatively. Baseline characteristics including age, body mass index, number of prescribed medications, comorbidities, and history of falling in the past year were evaluated as covariates and determined using a self-administered questionnaire and interview preoperatively. We assessed functional outcomes, including passive range of motion of the hip joint (flexion, extension, abduction, and adduction), muscle strength (hip abduction and knee extension), gait velocity, and gait abnormality at 3 weeks postoperatively. Cox proportional hazard regression models were used to analyze the relationship between the presence of gait abnormality and falls.

Results

One hundred sixty-two women were included. The incidence of at least 1 fall during the first year after THA was 31.5%. Cox proportional hazard regression models showed that the presence of gait abnormality (hazard ratio 2.91, 95% confidence interval 1.55–5.48; $P < 0.001$) was significantly associated with falls during the first year postoperatively.

Conclusions

The presence of gait abnormality is a useful screening tool to predict future falls in women after THA. Clinicians should assess gait abnormality to identify patients who may require fall prevention measures and continuous rehabilitation to improve gait abnormality.

32 A. KNEE/ACL**Pivot shifts post-surgery**

Knee Surgery, Sports Traumatology, Arthroscopy pp 1–7|

Risk factors for residual pivot shift after anterior cruciate ligament reconstruction: data from the MAKS group

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Hiroki Katagiri Koji Otabe Kenta Katagiri Kanehiro Hiyama Mai Katakura Takashi Hoshino
Kei Inomata Naoko Araya Ichiro Sekiya Takeshi Muneta Hideyuki Kogal

Purpose

To investigate the risk factors for residual pivot shift test after anterior cruciate ligament (ACL) reconstruction based on a multicenter prospective cohort study.

Methods

This study included patients who were registered in the Multicenter Arthroscopic Knee Surgery Study, a prospective longitudinal multicenter cohort study, and who underwent primary ACL reconstruction using autologous hamstring tendon graft between 2013 and 2016. The exclusion criteria included prior injuries or surgeries in the contralateral knee, prior ligamentous injuries in the involved knee, grade 2 or 3 concomitant ligament injuries, and inflammatory or other forms of osteoarthritis. Data from the preoperative period and at 1-year follow-up were used for further analysis, and patients with incomplete data, re-injury and loss to follow-up were also excluded. Logistic regression analysis was conducted with age, gender, Lachman test, pivot shift test, KT measurement, hyperextension, single-bundle vs. double-bundle, meniscus injury sites, and meniscus treatments as the independent variables, and postoperative pivot shift test was used as the dependent variable.

Results

Three hundred and sixty-eight patients were included in the study. Hyperextension knee ($P = 0.025$) and a preoperative pivot shift test under anesthesia ($P = 0.040$) were identified as risk factors for a postoperative pivot shift via logistic regression analysis. There were no statistically significant differences in the other variables.

Conclusions

The results from a multicenter cohort study indicated that knee hyperextension and greater preoperative pivot shift under anesthesia were risk factors for residual pivot shift at 1 year after ACL reconstruction. In cases with a preoperative high-grade pivot shift and knee hyperextension, additional anterolateral structure augmentation might be considered in order to eliminate pivot shift and eventually obtain better outcomes after ACL reconstruction.

Early surgery better for adolescents

Knee Surg Sports Traumatol Arthrosc. 2018 Jun 6. doi: 10.1007/s00167-018-5012-5.

Earlier anterior cruciate ligament reconstruction is associated with a decreased risk of medial meniscal and articular cartilage damage in children and adolescents: a systematic review and meta-analysis.

Kay J¹, Memon M¹, Shah A², Yen YM³, Samuelsson K⁴, Peterson D¹, Simunovic N⁵, Flageole H⁶, Ayeni OR⁷.

PURPOSE:

To evaluate the association between surgical timing and the incidence of secondary meniscal or chondral damage in children and adolescents with anterior cruciate ligament (ACL) ruptures.

METHODS:

Three electronic databases, PubMed, MEDLINE, and EMBASE, were systematically searched from database inception until October 16, 2017 by two reviewers independently and in duplicate. The inclusion criteria were English language studies that reported the incidence of meniscal and articular cartilage damage in children or adolescent athletes with ACL injuries as well as the timing of their ACL reconstruction (ACLR). Risk ratios were combined in a meta-analysis using a random effects model.

RESULTS:

A total of nine studies including 1353 children and adolescents met the inclusion criteria. The mean age of patients included was 14.2 years (range 6-19), and 45% were female. There was a significantly decreased risk of concomitant medial meniscal injury in those reconstructed early (26%) compared to those with delayed reconstruction (47%) [pooled risk ratio (RR) = 0.49, 95% CI 0.36-0.65, $p < 0.00001$]. There was also a significantly reduced risk of medial femoral chondral (RR = 0.48, 95% CI 0.31-0.75, $p = 0.001$), lateral femoral chondral (RR = 0.38, 95% CI 0.20-0.75, $p = 0.005$), tibial chondral (RR = 0.45, 95% CI 0.27-0.75, $p = 0.002$), and patellofemoral chondral (RR = 0.41, 95% CI 0.20-0.82, $p = 0.01$) damage in the early reconstruction group in comparison to the delayed group.

CONCLUSION:

Pooled results from observational studies suggest that early ACLR results in a significantly decreased risk of secondary medial meniscal injury, as well as secondary medial, lateral, and patellofemoral compartment chondral damage in children and adolescents. This study provides clinicians with valuable information regarding the benefits of early ACL reconstruction in children and adolescents, and can be used in the decision making for athletes in this population.

LEVEL OF EVIDENCE: IV.

Bone bruise

Knee Surg Sports Traumatol Arthrosc. 2018 Jun 5. doi: 10.1007/s00167-018-4993-4.

Bone bruise in anterior cruciate ligament rupture entails a more severe joint damage affecting joint degenerative progression.

Filardo G¹, Andriolo L², di Laura Frattura G³, Napoli F⁴, Zaffagnini S², Candrian C⁴.

PURPOSE:

During anterior cruciate ligament (ACL) injury, the large external forces responsible for ligament rupture cause a violent impact between tibial and femoral articular cartilage, which is transferred to bone resulting in bone bruise detectable at MRI. Several aspects remain controversial and await evidence on how this MRI finding should be managed while addressing the ligament lesion. Thus, the aim of the present review was to document the evidence of all available literature on the role of bone bruise associated with ACL lesions.

METHODS:

A systematic review of the literature was performed on bone bruise associated with ACL injury. The search was conducted in September 2017 on three medical electronic databases: PubMed, Web of Science, and the Cochrane Collaboration. Preferred Reporting Items for Systematic Reviews and Meta-analysis (PRISMA) guidelines were used. Relevant articles were studied to investigate three main aspects: prevalence and progression of bone bruise associated with ACL lesions, its impact on the knee in terms of lesion severity and joint degeneration progression over time and, finally, the influence of bone bruise on patient prognosis in terms of clinical outcome.

RESULTS:

The search identified 415 records and, after an initial screening according to the inclusion/exclusion criteria, 83 papers were used for analysis, involving a total of 10,047 patients. Bone bruise has a high prevalence (78% in the most recent papers), with distinct patterns related to the mechanism of injury. This MRI finding is detectable only in a minority of cases the first few months after trauma, but its presence and persistence have been correlated to a more severe joint damage that may affect the degenerative progression of the entire joint, with recent evidence suggesting possible effects on long-term clinical outcome.

CONCLUSION:

This systematic review of the literature documented a growing interest on bone bruise associated with ACL injury, highlighting aspects which could provide to orthopaedic surgeons evidence-based suggestions in terms of clinical relevance when dealing with patients affected by bone bruise following ACL injury. However, prospective long-term studies are needed to better understand the natural history of bone bruise, identifying prognostic factors and targets of specific treatments that should be developed in light of the overall joint derangements accompanying ACL lesions.

35. KNEE/TOTAL**Varus deformity****The Journal of Arthroplasty****Does Preoperative Varus Deformity Influence Survival of Postoperative Neutral Aligned TKAs? : an analysis with a minimum 5-year follow-up**

Seong-II Bin M.D. Jae-Young Kim M.D. Hyun-Ik Cho M.D. Bum-Sik Lee M.D. Jong-Min Kim M.D.

<https://doi.org/10.1016/j.arth.2018.06.001> Get rights and content**Abstract****Background**

Postoperative neutral alignment may be an important factor for longevity of total knee arthroplasty (TKA). In knees with severe varus deformity, greater soft tissue release and bone resection were required to achieve neutral alignment. We investigated the relationship between the severity of preoperative varus deformity and longevity of neutral-aligned TKAs.

Methods

Of the 723 knees in patients who underwent primary TKA for varus-type osteoarthritis between November 1998 and June 2009, 496 knees aligned neutrally (the postoperative mechanical hip-knee-ankle axis angle [HKA] ranged between -3 and 3°) and followed up for at least 5 years were included in the study. The mean follow-up period was 9.28 years. Patients were divided into four groups based on their preoperative HKAs: mild ($0^\circ < \text{HKA} \leq 5^\circ$, $n = 79$), moderate ($5^\circ < \text{HKA} \leq 10^\circ$, $n = 204$), severe ($10^\circ < \text{HKA} \leq 15^\circ$, $n = 149$), and very severe ($\text{HKA} > 15^\circ$, $n = 64$) groups. Failure was defined as need for revisional TKA for mechanical reason. Survival was analyzed by Kaplan–Meier method and log-rank test.

Results

The overall failure rate was 2.02 % (10 of 496 prostheses). The cumulative survival rates of neutral-aligned TKAs at 10 years were 97.4% (95% CI, 93.9%–100%), 99.0% (95% CI, 97.6%–100%), 97.8% (95% CI, 95.4%–100%), and 96.9% (95% CI, 92.6%–100%) in mild, moderate, severe, and very severe varus groups, respectively. There were no significant differences between group survival rates ($P = 0.395$).

Conclusions

The severity of preoperative varus deformity did not affect survival rates of neutral-aligned TKAs over 10 years.

Patella considerations

The Knee

Impingement of the patellar component against the tibial post depends on the design of the post-cam mechanism: Comparison between 12 posterior stabilized total knee prostheses

- Yukihide Minoda¹, Ryo Sugama, Yoichi Ohta, Mitsuhiko Ikebuchi, Hiroaki Nakamura
<https://doi.org/10.1016/j.knee.2018.05.008>

Background

Patella–post impingement (PPI), contact of the patellar component with the tibial post, occurs during deep knee flexion after posterior stabilized total knee arthroplasty (TKA). In a previous pilot study, only two product lines were investigated. The aim of this study was to compare PPI between 12 contemporary posterior stabilized knee prostheses.

Methods

Twelve posterior stabilized knee prostheses were implanted in full-length sawbone models of the femur and tibia using a navigation system. The distance between the lower edge of the patellar component and the cut surface of the tibia was defined as the tibial–patellar clearance (TPC), which represents the length of the patellar tendon. The TPC was set from 20 to 40 mm and the knee was moved from full extension to deep flexion while the knee angle at which PPI occurred (PPI angle) was recorded.

Results

The PPI angle differed between prostheses ($P < 0.05$). Shorter TPCs resulted in smaller PPI angles and longer TPCs resulted in larger PPI angles ($P < 0.05$). To achieve more than 130° of flexion without PPI, the TPC should be prepared at a minimum of 20 mm for the NexGen LPS-Flex, Persona PS, Legion PS, and Evolution PS, 22 mm for the Attune RP and Journey II, 24 mm for the Triathlon PS, PFC Sigma PS, and Attune PS, and 26 mm for the NRG PS, Vanguard PS, and Vanguard RP.

Conclusions

The design of the tibial post significantly affects the PPI angle. To avoid PPI during deep flexion, appropriate TPC should be prepared during surgery.

41 A. ACHILLES TENDON AND CALF**Microcirculation**

J Orthop Surg Res. 2018 Jun 7;13(1):142. doi: 10.1186/s13018-018-0850-x.

Soft tissue microcirculation around the healthy Achilles tendon: a cross-sectional study focusing on the Achilles tendon and dorsal surgical approaches to the hindfoot.

Klos K¹, Gueorguiev B², Carow JB³, Modabber A⁴, Nebelung S⁵, Kim BS⁶, Horst K³, Weber CD³, Knobe M⁷.

BACKGROUND:

Dorsal approaches to the hindfoot are frequently used. Furthermore, the vascular supply is discussed as a possible cause for ruptures and degeneration of the Achilles tendon. The aim of this study was to evaluate the microperfusion of three possible posterior approaches to the hindfoot and different areas of the Achilles tendon.

METHODS:

In 111 subjects, a laser Doppler/white light spectroscopy was used to measure microperfusion in terms of blood flow (Flow) and capillary venous oxygen saturation (SO₂) in the hindfoot and Achilles tendon. Measurements were performed at two measurement points (MP, proximal and distal) of three dorsal approaches (medial, lateral and central) and inside the Achilles tendon.

RESULTS:

Microperfusion differed partially between the surgical approaches. The medial and the lateral approaches were significantly superior to the central approach with regard to Flow in both MP ($p < 0.001$), while SO₂ was significantly higher at the proximal measurement point (MP 1; $p < 0.001$). In this area, the lateral approach was significantly superior to the medial approach regarding Flow (MP 1; $p = 0.012$). The Achilles tendon exhibited a significantly reduced microperfusion 5 cm proximal to the calcaneal tubercle (SO₂ $p = 0.001$; Flow $p = 0.048$). Demographic factors, such as body mass index and age, had different effects. Microcirculation was partially superior in men and negatively affected by smoking.

CONCLUSIONS:

Soft tissue microcirculation on the lateral and medial side of the healthy Achilles tendon was better than centrally on the tendon. Proximally, the lateral approach was better than the medial approach. These circumstances could provide advantages regarding the surgical approach. The Achilles tendon exhibited significantly reduced microperfusion at the typical side of degeneration and rupture. This circumstance could be a possible cause of degenerative processes.

59. PAIN**Brain changes in LBP**

Clin J Pain. 2018 Jul;34(7):657-663. doi: 10.1097/AJP.0000000000000583.

Brain Metabolite Changes in the Anterior Cingulate Cortex of Chronic Low Back Pain Patients and Correlations Between Metabolites and Psychological State.

Kameda T¹, Fukui S², Tominaga R¹, Sekiguchi M¹, Iwashita N², Ito K³, Tanaka-Mizuno S^{4,5}, Konno SI¹.

OBJECTIVES:

In chronic low back pain (CLBP) patients, study of altered brain metabolites in the anterior cingulate cortex (ACC) using magnetic resonance spectroscopy (MRS) could reveal the detailed pathology of CLBP and depression. The aim was to detect the central difference between CLBP and controls by means of measuring the metabolites in the ACC, and to analyze the correlations between depression and metabolites in ACC.

MATERIALS AND METHODS:

MRS was performed in CLBP (n=60) and control participants (n=56) to evaluate the effects of CLBP on metabolites in the ACC and to analyze the correlations between metabolites and questionnaire scores in a cross-sectional study.

RESULTS:

Adjusting for age and sex, a negative effect of CLBP on the N-acetylaspartate (NAA) level (estimated regression slope coefficient [B]=-0.685, P<0.001) and positive effects on the glutamate +glutamine (Glx)/creatine (B=0.136, P=0.016) and Glx/myoinositol (B=0.140, P<0.048) ratios in the ACC were found. The correlation analysis demonstrated that there was a significant moderate correlation between some questionnaire scores of emotional disorders and metabolites in the ACC of CLBP participants (absolute r>0.4, P<0.05).

DISCUSSION:

Lower NAA levels and higher Glx/creatine and Glx/myoinositol ratios in the ACC of CLBP participants compared with controls were revealed. The result suggests the hypothesis that excessive Glx leads to neuronal dysfunction and/or death, which was reflected as a low NAA level in the ACC of individuals with CLBP. Measurement of these metabolites using MRS potentially helps evaluate CLBP patients' condition and psychological status objectively.

Placebo does great

Injury

A Double-Blind, Randomized Controlled Trial of Gabapentin vs. Placebo for Acute Pain Management in Critically Ill Patients with Rib Fractures☆

LucinGarabedianKimberlyHardenEmilyPerkins-PrideMenilikAsfawCandicePreslaskiKiara
N.LiasiaRyanLawlessClay CothrenBurlewFredricPieracci
<https://doi.org/10.1016/j.injury.2018.06.002>Get rights and content

Abstract

Introduction

Achieving adequate pain control for rib fractures remains challenging; prescription of alternatives to narcotics is imperative to curtail the current opioid epidemic. Although gabapentin has shown promise following elective thoracic procedures, its efficacy in patients with rib fractures remains unstudied. We hypothesized that gabapentin, as compared to placebo, would both improve acute pain control and decrease narcotic use among critically ill patients with rib fractures.

Materials and Methods

Adult patients admitted to the trauma surgery service from November 2016 – November 2017 at an urban, Level I trauma center with one or more rib fractures were randomized to either gabapentin 300 mg thrice daily or placebo for one month following their injury. Daily numeric pain scores, opioid consumption, oxygen requirement, respiratory rate, and incentive spirometry recordings during the index admission, as well as and one-month quality of life survey data were abstracted.

Results

Forty patients were randomized. The groups were well matched with respect to age, gender, prior narcotic use, tobacco use, and prior respiratory disease. Although the median RibScore did not differ between groups, the gabapentin group had a higher median number of ribs fractured as compared to the placebo group (7 vs. 5, respectively). Degree of pulmonary contusion and injury severity score were similar between groups. Use of loco-regional anesthetic modalities did not differ between groups. Daily numeric pain scores, opioid consumption, oxygen requirement, respiratory rate, and incentive spirometry recordings were similar between both groups. No benefit was observed when adding gabapentin to a multi-modal analgesic regimen for rib fractures. There were no instances of pneumonia, respiratory failure, or mortality in either group. Hospital and intensive care unit length of stay were similar between groups. Both overall and chest-specific quality of life was equivalent between groups at one month follow-up.

Conclusions

In this group of critically ill patients with rib fractures, gabapentin did not improve acute outcomes for up to one month of treatment.

Neuropathic pain

Anaesthesia. 2018 Jun 2. doi: 10.1111/anae.14347.

Comparison of peripheral nerve blockade characteristics between non-diabetic patients and patients suffering from diabetic neuropathy: a prospective cohort study.

Baeriswyl M¹, Taffé P², Kirkham KR³, Bathory I¹, Rancati V¹, Crevoisier X⁴, Cherix S⁴, Albrecht E¹.

Animal data have demonstrated increased block duration after local anaesthetic injections in diabetic rat models. Whether the same is true in humans is currently undefined.

We, therefore, undertook this prospective cohort study to test the hypothesis that type-2 diabetic patients suffering from diabetic peripheral neuropathy would have increased block duration after ultrasound-guided popliteal sciatic nerve block when compared with patients without neuropathy. Thirty-three type-2 diabetic patients with neuropathy and 23 non-diabetic control patients, scheduled for fore-foot surgery, were included prospectively. All patients received an ultrasound-guided popliteal sciatic nerve block with a 30 ml 1:1 mixture of lidocaine 1% and bupivacaine 0.5%. The primary outcome was time to first opioid request after block procedure. Secondary outcomes included the time to onset of sensory blockade, and pain score at rest on postoperative day 1 (numeric rating scale 0-10). These outcomes were analysed using an accelerated failure time regression model. Patients in the diabetic peripheral neuropathy group had significantly prolonged median (IQR [range]) time to first opioid request (diabetic peripheral neuropathy group 1440 (IQR 1140-1440 [180-1440]) min vs. control group 710 (IQR 420-1200 [150-1440]) min, $p = 0.0004$). Diabetic peripheral neuropathy patients had a time ratio of 1.57 (95%CI 1.10-2.23, $p < 0.01$), experienced a 59% shorter time to onset of sensory blockade (median time ratio 0.41 (95%CI 0.28-0.59), $p < 0.0001$) and had lower median (IQR [range]) pain scores at rest on postoperative day 1 (diabetic peripheral neuropathy group 0 (IQR 0-1 [0-5]) vs. control group 3 (IQR 0-5 [0-9]), $p = 0.001$).

In conclusion, after an ultrasound-guided popliteal sciatic nerve block, patients with diabetic peripheral neuropathy demonstrated reduced time to onset of sensory blockade, with increased time to first opioid request when compared with patients without neuropathy.

62 A. NUTRITION/VITAMINS**Coffee consumption reduces risk of kidney disease****Effects of Coffee Intake on Incident Chronic Kidney Disease: Community-Based Prospective Cohort Study**

Jong Hyun Jhee, M.D.nSeung Hyeok Han, M.D.Ph.D.

DOI: <https://doi.org/10.1016/j.amjmed.2018.05.021>

- Daily coffee intake has beneficial effect on the development of incident chronic kidney disease among healthy adults.
- This might be attributed to the hemodynamically favorable effects of the biologic compounds of coffee
- These findings may unravel a widespread but unresolved health issue on coffee consumption.

ABSTRACT**Background**

Drinking coffee can raise public health problems, but the association between coffee and kidney disease is unknown. We studied whether coffee intake can affect the development of chronic kidney disease in the general population.

Methods

We analyzed 8717 subjects with normal renal function recruited from the KoGES cohort. Based on food frequency questionnaire, coffee consumption was categorized into five groups: 0/week, <1 cup/week, 1-6 cups/week, 1 cup/day, and ≥ 2 cups/day. The primary outcome was incident chronic kidney disease defined as an estimated glomerular filtration rate (eGFR) < 60 mL/min/1.73 m².

Results

The mean age of study subjects was 52.0 (8.8) years and 47.8% were male. Among the subjects, 52.8% were daily coffee consumers. During a mean follow-up of 11.3 [5.9-11.5] years, 9.5% of participants developed chronic kidney disease. The incident chronic kidney disease occurred less in daily coffee consumers. Unadjusted HRs was significantly lower in daily coffee consumers. In multivariable Cox model even after adjustment of blood pressure, hypertension, cardiovascular disease, diabetes, and amount of daily intake for caffeine-containing foods such as tea and chocolate, coffee consumers with 1 cup/day (HR, 0.76; 95% CI, 0.63-0.92) and ≥ 2 cups/day (HR, 0.80; 95% CI, 0.65-0.98) were associated with a lower risk of chronic kidney disease development than non-drinkers. Time-averaged and time-varying Cox models yielded similar results. The rates of decline in eGFR were lower in daily coffee consumers.

Conclusions

Our findings suggest that daily coffee intake is associated with decreased risk of the development of CKD.

Saturated fats increase risk of hip fx

Dietary fat, saturated fatty acid, and monounsaturated fatty acid intakes and risk of bone fracture: A systematic review and meta-analysis of observational studies

Osteoporosis International — Mozaffari H, et al. | June 14, 2018

Researchers conducted a comprehensive review of the literature on the relationship between dietary fat intake, saturated fatty acids (SFAs), monounsaturated fatty acids (MUFAs), and the risk of fracture. A comprehensive search of articles published up to 7 January 7, 2018 was undertaken in PubMed and Scopus.

Findings suggested that SFAs intake had a strong positive relationship with the risk of hip fracture. Furthermore, MUFAs derived from animal sources demonstrated a significant positive association with the risk of fracture.