

1. LUMBAR SPINE

Spondylolisthesis radiographs

Spine (Phila Pa 1976). 2018 Sep 15;43(18):1275-1280. doi: 10.1097/BRS.0000000000002604.

Utility of Supine Lateral Radiographs for Assessment of Lumbar Segmental Instability in Degenerative Lumbar Spondylolisthesis.

Tarpada SP¹, Cho W^{1,2}, Chen F², Amorosa LF^{1,2}.

STUDY DESIGN:

Retrospective chart review **OBJECTIVE.:** To determine whether supine lateral radiographs increase the amount of segmental instability visualized in single-level lumbar degenerative spondylolisthesis, when compared to traditional lateral flexion-extension radiographs. We hypothesized that supine radiographs increase the amount of segmental instability seen in single-level lumbar spondylolisthesis when compared to flexion-extension.

SUMMARY OF BACKGROUND DATA:

Accurate evaluation of segmental instability is critical to the management of lumbar spondylolisthesis. Standing flexion-extension lateral radiographs are routinely obtained, as it is believed to precipitate the forward-backward motion of the segment; however, recent studies with magnetic resonance imaging and computed tomography have shown that the relaxed supine position can facilitate the reduction of the anterolisthesed segment. Here, we show that inclusion of supine lateral radiographs increases the amount of segmental instability seen in single-level lumbar spondylolisthesis when compared to traditional lateral radiographs.

METHODS:

Supine lateral radiographs were added to the routine evaluation (standing neutral/flexion/extension lateral radiographs) of symptomatic degenerative spondylolisthesis at our institution. In this retrospective study, 59 patients were included. The amount of listhesis was measured and compared on each radiograph: standing neutral lateral ("neutral"), standing flexion lateral ("flexion"), standing extension lateral ("extension"), and supine lateral ("supine").

RESULTS:

A total of 59 patients (51 women, 8 men), with a mean age of 63.0 years (± 9.85 yr) were included. The mean mobility seen with flexion-extension was 5.53 ± 4.11 . The mean mobility seen with flexion-supine was $7.83\% \pm 4.67\%$. This difference was significant in paired t test ($P=0.00133$), and independent of age and body mass index. Maximal mobility was seen between flexion and supine radiographs in 37 patients, between neutral and supine radiographs in 11 cases, and between traditional flexion-extension studies in 11 cases.

CONCLUSION:

Supine radiograph demonstrates more reduction in anterolisthesis than the extension radiograph. Incorporation of a supine lateral radiograph in place of extension radiograph can improve our understanding of segmental mobility when evaluating degenerative spondylolisthesis.

2. LBP

Possibility of surgery

Spine (Phila Pa 1976). 2018 Sep 15;43(18):1296-1305. doi: 10.1097/BRS.0000000000002603.

Predicting Likelihood of Surgery Before First Visit in Patients With Back and Lower Extremity Symptoms: A Simple Mathematical Model Based on More Than 8,000 Patients.

Boden LM¹, Boden SA¹, Premkumar A², Gottschalk MB¹, Boden SD¹.

STUDY DESIGN:

Retrospective analysis of prospectively collected data.

OBJECTIVE:

To create a data-driven triage system stratifying patients by likelihood of undergoing spinal surgery within 1 year of presentation.

SUMMARY OF BACKGROUND DATA:

Low back pain (LBP) and radicular lower extremity (LE) symptoms are common musculoskeletal problems. There is currently no standard data-derived triage process based on information that can be obtained before the initial physician-patient encounter to direct patients to the optimal physician type.

METHODS:

We analyzed patient-reported data from 8006 patients with a chief complaint of low back pain and/or LE radicular symptoms who presented to surgeons at a large multidisciplinary spine center between September 1, 2005 and June 30, 2016. Univariate and multivariate analysis identified independent risk factors for undergoing spinal surgery within 1 year of initial visit. A model incorporating these risk factors was created using a random sample of 80% of the total patients in our cohort, and validated on the remaining 20%.

RESULTS:

The baseline 1-year surgery rate within our cohort was 39% for all patients and 42% for patients with LE symptoms. Those identified as high likelihood by the center's existing triage process had a surgery rate of 45%. The new triage scoring system proposed in this study was able to identify a high likelihood group in which 58% underwent surgery, which is a 46% higher surgery rate than in nontriaged patients and a 29% improvement from our institution's existing triage system.

CONCLUSION:

The data-driven triage model and scoring system derived and validated in this study (Spine Surgery Likelihood-11), significantly improved existing processes in predicting the likelihood of undergoing spinal surgery within 1 year of initial presentation. This triage system will allow centers to more selectively screen for surgical candidates and more effectively direct patients to surgeons or nonoperative spine specialists.

Depression

Spine (Phila Pa 1976). 2018 Sep 15;43(18):1281-1288. doi: 10.1097/BRS.0000000000002595.

Depression is Closely Associated With Chronic Low Back Pain in Patients Over 50 Years of Age: A Cross-sectional Study Using the Sixth Korea National Health and Nutrition Examination Survey (KNHANES VI-2).

Park SM¹, Kim HJ¹, Jang S¹, Kim H², Chang BS², Lee CK², Yeom JS¹.

STUDY DESIGN:

A cross-sectional study.

OBJECTIVE:

This study was designed to analyze the relationship between the presence and severity of depression and low back pain (LBP) in a representative sample of the general population using a self-report screening questionnaire for depression.

SUMMARY OF BACKGROUND DATA:

There is increasing evidence supporting an association between depression and LBP. However, the degree of the association between these two conditions in the general population is poorly understood.

METHODS:

Health surveys and examinations were conducted on a nationally representative sample (n=7550) of Koreans. LBP status was determined by a simple survey response concerning LBP >30 days during the past 3 months. Depression was defined as individuals with a total score >10 on the Patient Health Questionnaire (PHQ)-9 survey. The severity of depression was categorized as none (0-4), mild (5-9), moderate (10-14), moderately severe (15-19), and severe (20-27) according to PHQ-9 score. Data regarding demographics, socioeconomic history, and comorbid health conditions were used to analyze adjusted, weighted logistic regression models.

RESULTS:

In the Korean population, the prevalence of depression was significantly greater in individuals with LBP (20.3%) than in those without LBP (4.5%). On multivariate logistic regression analysis, the presence of depression was significantly associated with LBP (adjusted odd ratio [aOR]: 3.93, $P < 0.001$). The risk of LBP increased with increasing severity of depression as follows: severe depression (aOR: 9.28, $P < 0.001$), moderately severe depression (aOR: 3.24, $P = 0.001$), moderate depression (aOR: 4.97, $P < 0.001$), and mild depression (aOR: 2.48, $P < 0.001$).

CONCLUSION:

Depression is more common in patients with LBP among Koreans. The presence of depression was significantly associated with LBP, especially in severely depressed individuals.

LEVEL OF EVIDENCE: 3.

7. PELVIC ORGANS/WOMAN'S HEALTH

Pregnancy complications and risk of breast cancer

Int J Cancer. 2018 May 11. doi: 10.1002/ijc.31600.

Pregnancy complications and subsequent breast cancer risk in the mother: a Nordic population-based case-control study.

Troisi R¹, Gulbech Ording A², Grotmol T³, Glimelius I^{4,5}, Engeland A^{6,7}, Gissler M^{8,9}, Trabert B¹, Ekblom A⁴, Madanat-Harjuoja L^{10,11}, Toft Sørensen H², Tretli S³, Bjørge T^{3,7}.

Certain features of pregnancy are important risk factors for breast cancer, such as protection afforded by young age at first birth.

Preeclampsia, a pregnancy complication, is associated with reduced maternal breast cancer risk. However, questions remain regarding causality, biological mechanisms and the relation of other hypertensive conditions to risk.

We conducted a population-based case-control study of breast cancer cases (n = 116,196) in parous women identified through linkage of birth and cancer registries in Denmark, Finland, Norway and Sweden (1967-2013), including up to 10 matched controls per case (n = 1,147,192) sampled from the birth registries (complete data were not available on all variables). Odds ratios (ORs) with 95% confidence intervals (CIs) were derived from unconditional logistic regression models including matching factors (country, maternal birth year) and parity. Hypertension diagnosed before pregnancy (OR 0.87; 95% CI 0.78-0.97), gestational hypertension (OR 0.90; 95% CI 0.86-0.93) and preeclampsia (OR 0.91; 95% CI 0.88-0.95) were associated with reduced breast cancer risk.

Results remained similar after adjustment for smoking and maternal body mass index before first pregnancy, and were generally similar stratified by parity, age at breast cancer diagnosis, time since first and last birth, sex of the offspring and calendar time. Except for retained placenta (OR 1.14; 95% CI 0.98-1.32), no other pregnancy complication appeared associated with breast cancer risk.

The mechanisms mediating the modest risk reductions for history of preeclampsia or hypertension preceding or arising during pregnancy, and possible increased risk with history of retained placenta are unknown and warrant further laboratory, clinical and epidemiological investigation.

Endometrial CA

Archives of Gynecology and Obstetrics pp 1–8|

Risk of endometrial cancer in asymptomatic postmenopausal patients with thickened endometrium: data from the FAME-Endo study: an observational register study

- Lukas Hefler Alexander Reinthaller

Purpose

To evaluate the risk for endometrial cancer (EC) in a large series of asymptomatic patients with thickened endometrium at ultrasound examination based on previously published data of a theoretical cohort.

Methods

In a prospective register study, a total of 1024 women with thickened endometrium in ultrasound examination undergoing histological diagnosis by dilation, hysteroscopy and curettage were evaluated. 124 patients were excluded due to current medication with tamoxifen and/or presence of HNPCC leaving 900 patients for further analysis.

Results

Mean [standard deviation (SD)] age of patients was 65.6 (8.6) years. Mean (SD) endometrial thickness was 11.9 (5.8) mm. 32 and 6 cases of EC and complex endometrial hyperplasia with atypia were found, respectively. In the univariate analysis, a statistically significant association between endometrial thickness, current use of antihypertensive medication, number of deliveries, and the presence of endometrial fluid in preoperative vaginal ultrasound ($p < 0.05$) with EC was found. A multivariate logistic regression model incorporating these parameters showed a statistically significant independent association of endometrial thickness, number of deliveries, and the presence of endometrial fluid in preoperative vaginal ultrasound ($p < 0.05$), but not current use of antihypertensive medication, with EC. Using a cut-off of the endometrial thickness of > 11 mm, the risk for “EC alone” and “EC and complex endometrial hyperplasia with atypia combined” was found to be 6.7% and 7.9%, respectively.

Conclusions

Our data compare favorably to a theoretical cohort suggesting a clinically reasonable cut-off of > 11 mm endometrial thickness to discriminate between “normal” and “pathological”. The data regarding “risk for endometrial cancer” can be used for counseling affected women.

In vitro birth odds

Journal Summaries in Obstetrics & Gynecology

Predicting the cumulative chance of live birth over multiple complete cycles of in vitro fertilization: An external validation study

Human Reproduction — Leijdekkers JA, et al. | August 31, 2018

Researchers explored if the published pre-treatment and post-treatment McLernon models, predicting cumulative live birth rates (LBR) over multiple complete IVF cycles, are valid in a different context. Accurate prediction of cumulative LBR in a different geographical context and a more recent time period via both McLernon models, with minor recalibration of the pre-treatment model, was achieved.

Methods

- Researchers performed an external validation study in an independent prospective cohort of 1515 Dutch women who participated in the OPTIMIST study (NTR2657) and underwent their first IVF treatment between 2011 and 2014.
- A total of 2881 complete treatment cycles were performed on the participants; a complete cycle was defined as all fresh and frozen thawed embryo transfers resulting from one episode of ovarian stimulation.
- After inclusion, follow up of 18 months was performed.
- The primary outcome included ongoing pregnancy leading to live birth.
- Using the linear predictor as described by McLernon et al. to calculate the probability of a live birth, they externally validated model performance up to three complete treatment cycles.
- The c-statistic expressed the discrimination and a calibration plot depicted calibration graphically.
- In contrast to the original model development cohort, the OPTIMIST cohort had anti-Müllerian hormone (AMH), antral follicle count (AFC) and body weight available; they evaluated these measures as potential additional predictors for model improvement.

Results

- Researchers identified the c-statistic of the pre-treatment model of 0.62 (95% CI: 0.59–0.64) and of the post-treatment model of 0.71 (95% CI: 0.69–0.74) on applying the McLernon models to the OPTIMIST cohort.
- The calibration plot of the pre-treatment model indicated a slight overestimation of the cumulative LBR.
- They recalibrated the pre-treatment model by subtracting 0.35 from the intercept to improve calibration.
- Accurate cumulative LBR predictions were achieved by the post-treatment model calibration plot.
- Addition of AMH, AFC and body weight to the McLernon models led to slight improvement in the c-statistic of the updated pre-treatment model to 0.66 (95% CI: 0.64–0.68), and however, the c-statistic of the updated post-treatment model remained at the previous level of 0.71 (95% CI: 0.69–0.73).
- Increase in a chance of 40% of a live birth from the first complete cycle to 72% over three complete cycles was noted in a woman aged 30 years with 2 years of primary infertility who starts ICSI treatment for male factor infertility using the recalibrated pre-treatment model.
- The updated pre-treatment model revises the estimated chance of a live birth to 30% in the first complete cycle and 59% over three complete cycles if this woman weighs 70 kg, has an AMH of 1.5 ng/mL and an AFC of 10 measured at the beginning of her treatment.
- If this woman then has five retrieved oocytes, no embryos cryopreserved and a single fresh cleavage stage embryo transfer in her first ICSI cycle, the chances of a live birth at 28% and 58%, respectively, were estimated via the post-treatment model.

Second stage of labor and preterm

Journal Summaries in Obstetrics & Gynecology

Length of the second stage of labor and preterm delivery risk in the subsequent pregnancy

American Journal of Obstetrics and Gynecology — Quiñones JN, et al. | August 31, 2018

Researchers performed a retrospective cohort analysis of 6,715 women with two consecutive pregnancies in order to assess if the duration of the second stage of labor in a term primiparous singleton delivery is associated with an increased risk of singleton spontaneous preterm delivery (<37 weeks) in the second pregnancy.

Findings suggested an increased risk of spontaneous preterm delivery in the second pregnancy in women with a prolonged (>180 minutes) second stage in the first term pregnancy. Women who were delivered by cesarean in the first pregnancy showed this risk even higher.

Chronic pain after breast surgery

Ann Surg Oncol. 2018 Oct;25(10):2917-2924. doi: 10.1245/s10434-018-6644-x. Epub 2018 Jul 16.

Chronic Pain After Breast Surgery: A Prospective, Observational Study.

Spivey TL^{1,2}, Gutowski ED³, Zinboonyahgoon N⁴, King TA^{5,3}, Dominici L^{5,3}, Edwards RR^{3,4}, Golshan M^{5,3}, Schreiber KL^{3,4}.

BACKGROUND:

Chronic pain is an important complication of breast surgery, estimated to affect 20-30% of patients. We prospectively examined surgical, demographic, and psychosocial factors associated with chronic pain 6 months after breast surgery.

METHODS:

Patients undergoing breast surgery for benign and malignant disease preoperatively completed validated questionnaires to assess baseline pain and psychosocial characteristics. Pain at 6 months was quantified as the Pain Burden Index (PBI), which encompasses pain locations, severity, and frequency. Surgical type was categorized as breast-conserving surgery (BCS), mastectomy, and mastectomy with reconstruction; axillary procedure was categorized as no axillary surgery, sentinel lymph node biopsy (SLNB), and axillary dissection. PBI was compared between groups using one-way analysis of variance (ANOVA) or Kruskal-Wallis ANOVA, and the relationship between baseline demographic and psychosocial factors and PBI was assessed using Spearman's Rank Correlation. $p < 0.05$ was considered significant.

RESULTS:

PBI was variable amongst patients reporting this endpoint ($n = 216$) at 6 months, but no difference was found between primary breast surgical types (BCS, mastectomy, and mastectomy with reconstruction) or with surgical duration. However, axillary dissection was associated with higher PBI than SLNB and no axillary procedure ($p < 0.001$). Younger age (< 0.001) and higher BMI ($p = 0.010$), as well as higher preoperative anxiety ($p = 0.017$), depression ($p < 0.001$), and catastrophizing scores ($p = 0.005$) correlated with higher 6-month PBI.

CONCLUSIONS:

Amongst surgical variables, only axillary dissection was associated with greater pain at 6 months after surgery. Patient characteristics that were associated with higher PBI included lower age and higher BMI, as well as higher baseline anxiety, depression, and catastrophizing.

8. VISCERA

Helicobacter pylori eradication

The effect of antioxidants on *Helicobacter pylori* eradication: A systematic review with meta-analysis

Yao-Bin Yang-Ou Yi Hu Yin Zhu Nong-Hua Lu

<https://doi.org/10.1111/hel.12535>

Background

The efficacy and safety of the addition of antioxidants to triple or quadruple therapy were unclear.

Materials and Methods

This systematic review was performed in accordance with the PRISMA 2009 guidelines. A systematic search of PubMed, EMBASE, and the Cochrane Library databases was conducted to identify potentially relevant publications using the following keywords: (*Helicobacter pylori*] or [*H. pylori*] or [*Hp*]) and ([antioxidant] or [vitamin] or [N-acetylcysteine] or [curcumin] or [cranberry]). The primary end-point of this study was to evaluate the efficacy of the addition of antioxidants to triple or quadruple therapy according to ITT and PP analysis. The second end-points were side effects and the comparative efficacy in terms of *H. pylori* eradication according to different antioxidant and antibiotic combinations.

Results

We included 9 studies with 1260 participants. The total eradication rate of *H. pylori* in the group combining eradication therapy with antioxidants was not superior to that without antioxidants according to the ITT (pooled RR [95% CI] = 1.17 [0.99-1.38]; $P = 0.07$) and PP analysis (pooled RR [95% CI] = 1.15 [0.99-1.34]; $P = 0.07$). There were no differences regarding side effects between the two groups (pooled RR [95% CI], 1.36 [0.81-2.28]; $P = 0.24$). However, the eradication regimen with vitamin supplementation (1400 mg/day) showed a significant, superior efficacy in eradication relative to those without supplementation (pooled RR [95% CI] = 1.57 [1.35, 1.84]; $P < 0.01$). In particular, in the amoxicillin-clarithromycin-based subgroup, the crude *H. pylori* eradication rate determined by ITT analysis was 81.3% and 68.6% for eradication therapy with and without antioxidant supplementation, respectively, which was a statistically significant difference (pooled RR [95% CI] = 1.23 [1.02-1.49]; $P = 0.03$).

Conclusions

The addition of antioxidants (vitamin, N-acetylcysteine, curcumin, cranberry) to amoxicillin-clarithromycin-based therapy could improve the eradication rate, and vitamin supplementation might be effective at a high dosage. However, antioxidant supplements have no impact on improving side effects

Fertility and ART

Journal Summaries in Obstetrics & Gynecology

Caffeine, alcohol, smoking, and reproductive outcomes among couples undergoing assisted reproductive technology treatments

Fertility and Sterility — Mínguez-Alarcón L, et al. |
September 10, 2018

Researchers aimed at summarizing the epidemiologic literature on intakes of caffeine and alcohol, smoking, and reproductive outcomes among women undergoing assisted reproductive technologies (ART) in order to ascertain the effects of some of these exposures on ART outcomes. They gained a little evidence indicating a detrimental effect of moderate caffeine intake on ART outcomes. ART outcomes may be adversely affected by the current consumption of alcohol, but at present the evidence is limited. For women who currently smoke cigarettes, they note consistently poorer ART outcomes, including reduced live birth rates. However, studies quantifying the benefits of smoking cessation are lacking.

Contraceptive pills and childhood leukemia

Journal Summaries in Obstetrics & Gynecology

Maternal use of hormonal contraception and risk of childhood leukaemia: A nationwide, population-based cohort study

The Lancet Oncology — Hargreave M, et al. | September 10, 2018

Researchers examined the link between maternal use of hormonal contraception and diagnosis of leukemia in their children. According to findings, non-lymphoid leukemia development in children was influenced by the use of hormonal contraception by their mothers.

Methods

- Via follow-up, a nationwide cohort of 1,185,157 liveborn children was examined between 1996 and 2014 listed in the Danish Medical Birth Registry.
- Using the Danish Cancer Registry, children diagnosed with leukemia were identified.
- Researchers used redeemed prescriptions from the Danish National Prescription Registry to obtain information regarding maternal hormonal contraceptive use, categorized as: no use (never used contraception before birth; reference category), previous use (>3 months before start of pregnancy), and recent use (≤3 months before and during pregnancy).
- For maternal hormonal contraceptive use during pregnancy, risk estimates were calculated separately.
- A diagnosis of any leukemia in the children was the primary outcome, and diagnoses of lymphoid leukemia and non-lymphoid leukemia were assessed as secondary outcomes.
- Estimation of hazard ratios (HRs) with 95% CIs for risk of leukemia in children was done by using Cox proportional hazards models.

Results

- A total of 1,185,157 liveborn children accumulated 11,114,290 person-years of follow-up (median 9.3 years, IQR 4.6–14.2) between January 1, 1996 and December 31, 2014, during which leukemia was diagnosed in 606 children (465 with lymphoid leukemia and 141 with non-lymphoid leukemia).
- A higher risk for any leukemia was seen among children born to women with recent use of any type of hormonal contraception vs children of women who never used contraception (HR 1.46, 95% CI 1.09–1.96; $p=0.011$); 1.78 was the estimated risk for exposure during pregnancy (0.95–3.31; $p=0.070$).
- Findings demonstrated no link between timing of use and risk for lymphoid leukemia (HR 1.23, 95% CI 0.97–1.57, $p=0.089$, for previous use and 1.27, 0.90–1.80, $p=0.167$, for recent use); however, the reported HRs for non-lymphoid leukemia for recent use and for use during pregnancy were 2.17 (1.22–3.87; $p=0.008$) and 3.87 (1.48–10.15; $p=0.006$), respectively.
- They also observed that hormonal contraception use close to or during pregnancy might have led to one additional case of leukemia per about 50,000 exposed children, or 25 cases during the 9-year study period.

Gluten and type 2

Diabetologia. 2018 Oct;61(10):2164-2173. doi: 10.1007/s00125-018-4697-9. Epub 2018 Aug 3.

Increased risk for new-onset hypertension in midlife male snorers: The 14-year follow-up study

Zong G^{1,2}, Lebowitz B³, Hu FB^{2,4,5}, Sampson L², Dougherty LW², Willett WC^{2,4,5}, Chan AT^{6,7,8,9}, Sun Q^{10,11,12}.

AIMS/HYPOTHESIS:

We investigated the association between gluten intake and long-term type 2 diabetes risk among Americans.

METHODS:

We followed women from the Nurses' Health Study (NHS, n = 71,602, 1984-2012) and NHS II (n = 88,604, 1991-2013) and men from the Health Professionals Follow-Up Study (HPFS, n = 41,908, 1986-2012). Gluten intake was estimated using a validated food frequency questionnaire every 2-4 years. Incident type 2 diabetes was defined as self-reported physician-diagnosed diabetes confirmed using a supplementary questionnaire.

RESULT:

Gluten intake was strongly correlated with intakes of carbohydrate components, especially refined grains, starch and cereal fibre (Spearman correlation coefficients >0.6). During 4.24 million years of follow-up, 15,947 people were confirmed to have type 2 diabetes. After multivariate adjustment, pooled HRs and 95% CIs for type 2 diabetes, from low to high gluten quintiles, were ($p_{\text{trend}} < 0.001$): 1 (reference); 0.89 (0.85, 0.93); 0.84 (0.80, 0.88); 0.78 (0.74, 0.82) and 0.80 (0.76, 0.84). The association was slightly weakened after further adjusting for cereal fibre, with pooled HRs (95% CIs) of ($p_{\text{trend}} < 0.001$): 1 (reference); 0.91 (0.87, 0.96); 0.88 (0.83, 0.93); 0.83 (0.78, 0.88) and 0.87 (0.81, 0.93). Dose-response analysis supported a largely linear inverse relationship between gluten intake up to 12 g/day and type 2 diabetes. The association between gluten intake and type 2 diabetes was stronger when intake of added bran was also higher ($p_{\text{interaction}} = 0.02$).

CONCLUSIONS/INTERPRETATION:

Gluten intake is inversely associated with type 2 diabetes risk among largely healthy US men and women. Limiting gluten in the diet is associated with lower intake of cereal fibre and possibly other beneficial nutrients that contribute to good health.

Alcohol and Gerd

Alcohol Consumption and the Risk of Gastroesophageal Reflux Disease: A Systematic Review and Meta-analysis

Jiaqi Pan Li Cen Weixing Chen Chaohui Yu Youming Li Zhe Shen
Alcohol and Alcoholism, agy063, <https://doi.org/10.1093/alcalc/agy063>

Aims

Epidemiologic evidence on alcohol consumption increasing the risk of gastroesophageal reflux disease (GERD) is contradictory. This study aimed to investigate the correlation between alcohol consumption and GERD by a meta-analysis of observational studies.

Short summary

Gastroesophageal reflux disease (GERD) is a prevalent disease, and the incidence is rising. We conducted a meta-analysis of observational studies, indicating that there was a significant association between alcohol consumption and the risk of GERD. This finding provides important implications for the prevention and control of GERD.

Methods

Two investigators retrieved relevant studies on PubMed, Cochrane and EMBASE, respectively. The summary odds ratios (ORs) and 95% confidence intervals (CIs) were calculated by random effects model to assess the association. Heterogeneity was quantified using the Q statistic and I^2 . Subgroup analysis, publication bias and sensitivity analysis were also conducted.

Results

Twenty-six cross-sectional studies and three case-control studies were included in the meta-analysis. The pooled random effects OR was 1.48 (95%CI, 1.31–1.67; $I^2 = 88.8\%$), in comparison between drinkers and non-/occasional drinkers. For reflux esophagitis and non-erosive reflux disease, two subtypes of GERD, the ORs were 1.78 (95%CI, 1.56–2.03; $I^2 = 87.5\%$) and 1.15 (95%CI, 1.04–1.28; $I^2 = 0.3\%$), respectively. In addition, the pooled OR for drinkers who drank <3–5 times or days per week was 1.29 (95%CI, 1.14–1.46; $I^2 = 35.5\%$), while for those who drank more frequently, the OR was 2.12 (95%CI, 1.63–2.75; $I^2 = 55.1\%$). Dose–response analysis showed a linear association between alcohol consumption and GERD ($P_{\text{for nonlinearity}}=0.235$). The pooled OR for a 12.5 g/day increment of alcohol was 1.16 (95%CI, 1.07–1.27; $P = 0.001$).

Conclusions

This meta-analysis provides evidence for a potential association between alcohol drinking and the risk of GERD. The increase in alcohol consumption and frequency showed a stronger association with GERD.

11. UPPER C SPINE**Odontoid fx**

Spine (Phila Pa 1976). 2018 Sep 15;43(18):E1077-E1081. doi: 10.1097/BRS.0000000000002637.

Mortality Rates After Posterior C1-2 Fusion for Displaced Type II Odontoid Fractures in Octogenarians.

Clark S¹, Nash A, Shasti M, Brown L, Jauregui JJ, Mistretta K, Koh E, Banagan K, Ludwig S, Gelb D.

STUDY DESIGN:

Retrospective cohort study **OBJECTIVE.:** To assess 30-day and 1-year mortality rates as well as the most common complications associated with posterior C1-2 fusion in an octogenarian cohort.

SUMMARY OF BACKGROUND DATA:

Treatment of unstable type II odontoid fractures in elderly patients can present challenges. Recent evidence indicates in patients older than 80 years, posterior C1-2 fusion results in improved survival as compared to other modes of treatment.

METHODS:

Retrospective analysis of 43 consecutive patients (25 female and 18 male; mean age 84.3 yr, range 80-89yr; mean Charlson Comorbidity Index 1.4, (range 1-6); mean body mass index 24.8±4.2kg/m, who underwent posterior C1-C2 fusion for management of unstable type II odontoid fracture by four fellowship trained spine surgeons at a single institution between January 2006 to June 2016.

RESULTS:

Mean fracture displacement was 5.1±3.6mm and mean absolute value of angulation was 19.93°±12.93°. The most common complications were altered mental status (41.9%, n=18), dysphagia (27.9%, n=12) with 50% of those patients (6/12) requiring a feeding tube, and emergency reintubation (9.3%, n=4). To the date of review completion, 25 of 43 patients expired (58.1%), median survival of 1.76 years from the date of surgery. Thirty-day and 1-year mortality rates were 2.3% and 18.6%, respectively. Patients who developed dysphagia were 14.5 times more likely to have expired at 1 year; dysphagia was also found to be significantly associated with degree of displacement. Fracture displacement was found to be associated with increased odds for 1-year mortality when accounting for age and requirement of a feeding tube.

CONCLUSION:

Posterior C1-2 fusion results in acceptably low mortality rates in octogenarians with unstable type II odontoid fractures when compared to nonoperative management mortality rates in current literature. Initial fracture displacement is associated with higher mortality rate in this patient population.

13 C. AIRWAYS/SWALLOWING/SPEECH**Snoring and hypertension**

REGULAR RESEARCH PAPER

Increased risk for new-onset hypertension in midlife male snorers: The 14-year follow-up study

Seung Ku Lee Kanghoon Choi Yoon Hee Chang Jinyoung Kim Chol Shin

<https://doi.org/10.1111/jsr.12757>

While the association between sleep-related breathing disorders such as snoring and hypertension has been well established, it still remains unclear whether the association differs by age and gender. T

herefore, in this 14-year follow-up study, we examined the independent association between self-reported snoring and the incidence of hypertension by gender and age groups in a large cohort of Korean adults. A total of 4,954 adults, aged 40–69 years, free of hypertension at baseline were enrolled. Participants were divided into three groups based on a self-reported snoring frequency: never; occasional (snoring <4 nights per week); and habitual snorer (snoring ≥4 nights). At baseline and biennial follow-up visits, blood pressure was measured by trained examiners. Incident hypertension was defined as the first occurrence at any follow-up examination where the participants had blood pressure ≥140/90 mmHg or were being treated with antihypertensive medication. After adjusting for known cardiovascular risk factors, only in men aged ≤45 years was habitual snoring significantly associated with a 1.5 times higher risk for incident hypertension than never snoring. In this age group, habitual snoring was significantly associated with increased risk for the development of hypertension, regardless of the presence of excessive daytime sleepiness. In women, snoring was not significantly associated with hypertension incidence in any age group.

The present study suggests that young male snorers may be at high risk for the future development of hypertension, which has important clinical implications for early detection and treatment of snoring to reduce the burden of cardiovascular disease.

14. HEADACHES

Adolescent HA's

The Journal of Headache and Pain December 2018, 19:79|

Long-term follow-up of a community sample of adolescents with frequent headaches

- Bo Larsson Johannes Foss Sigurdson Anne Mari Sund **Background**

Several outcome studies have reported on the short- and long-term effects of migraine in selected clinical samples of children and adolescents. However, current knowledge of the course, incidence, and outcome predictors of frequent headaches in early adolescents in community populations is limited, and little is known about the long-term effects. Headache remains untreated in most of these young people. Here we examined the course, incidence, and outcome predictors of frequent headaches (at least once a week) over the long term (14 years) using previously assessed data at the baseline and 1-year follow-up of early adolescents.

Methods

Out of an original sample of 2440 who participated in the first two assessments, a sample of 1266 participants (51.9% response rate) aged 26–28 years (mean = 27.2 years) completed an electronic questionnaire comprising questions about their headache frequency and duration at the long-term follow-up. These headache characteristics together with gender, age, parental divorce, number of friends, school absence, impairment of leisure-time activities and seeing friends, pain comorbidity, and emotional (in particular, depressive symptoms) and behavioral problems were analyzed.

Results

In these young people, 8.4% reported frequent headaches (at least once a week) at the extended follow-up, while 19% of the participants having such headaches at baseline again reported such levels with a negligible gender difference. Over the follow-up period, 7.4% had developed frequent headaches, and a higher percentage of females reported such headaches (11.3% in females, 1.5% in males). In a multivariate model, frequent headaches at the baseline, gender (worse prognosis in females), impairment of leisure-time activities and seeing friends, and higher level of depressive symptoms significantly predicted headache frequency at the long-term follow-up.

Conclusions


Our findings suggest that gender, greater social impairment, and comorbid depressive symptoms are important indicators for both the short- and long-term prognosis of frequent headaches in early adolescents in community populations.

20 A. ROTATOR CUFF

Immobilization and repair

Article in Press

No Functional Difference Between Three and Six Weeks of Immobilization After Arthroscopic Rotator Cuff Repair: A Prospective Randomized Controlled Non-Inferiority Trial.

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Purpose

The aim of this study was to compare clinical and radiologic results among patients with 3 versus 6 weeks of immobilization after arthroscopic rotator cuff (RC) repair in a prospective randomized controlled non-inferiority trial.

Methods

One hundred twenty patients were included after RC surgery for a small- to medium-sized tear of supraspinatus and upper infraspinatus tendons. Group A was immobilized in a simple sling for 3 weeks, and group B had a brace with a small abduction pillow with the arm in neutral position for 6 weeks. All patients started active range of motion when they removed the sling/brace. One hundred eighteen (98%) patients were assessed at 1-year follow-up. They underwent magnetic resonance imaging (MRI) of the shoulder, filled out the Western Ontario Rotator Cuff (WORC) index, and were evaluated with a Constant Murley (CM) score.

Results

Statistical non-inferiority was demonstrated for the 2 groups on the basis of the WORC index, the primary endpoint at 1 year. The objective for the non-inferiority test was to determine whether the expected mean WORC index for group A was at most 13% worse than standard treatment (Group B). The WORC index at 1 year was similar in both groups, with mean percent scores of 83% in group A and 87% in group B (mean difference = -4; 95% one-sided CI -9, -4). Age-adjusted CM scores were also similar, with means of 86 in group A and 90 in group B (mean difference = -4; 95% CI -13, 5; $P = .37$). MRI after 1 year showed 50 (89%) patients in each group with healed RC repair. Four patients in group A had complications: 1 acute postoperative infection, 2 cases of postoperative capsulitis treated with corticosteroid injections, and 1 repeat operation because of a loose anchor and subacromial pain. No patients in group B had complications.

Conclusion

RC repair resulted in improved postoperative shoulder function, regardless of whether the shoulder was immobilized for 3 or 6 weeks. Three weeks of postoperative immobilization with sling use was non-inferior to the commonly used regimen involving 6 weeks of immobilization in a brace with regard to the WORC index at 12 months' follow-up. MRI indicated similar degrees of healing between the groups. Based on these findings, it is safe to immobilize patients in a simple sling for 3 to 6 weeks after repair of small to medium RC tears. **Level of evidence** Level I.

Retear and acromial angle

Arthroscopy: The Journal of Arthroscopic & Related Surgery

Higher Critical Shoulder Angle and Acromion Index Are Associated With Increased Retear Risk After Isolated Supraspinatus Tendon Repair at Short-Term Follow Up

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<https://doi.org/10.1016/j.arthro.2018.05.029>Get rights and content

Purpose

To evaluate the effect of critical shoulder angle (CSA), acromion index (AI), and glenoid inclination (GI) on the postoperative healing rate after arthroscopic supraspinatus tendon repair.

Methods

Patients after arthroscopic repair of a symptomatic, unilateral, single-tendon, full-thickness supraspinatus tear in whom nonoperative management had failed were retrospectively reviewed. Magnetic resonance imaging (MRI) studies were obtained 6 months postoperatively and were evaluated by 2 independent observers. Repair integrity was classified as either intact or torn. Preoperative true anteroposterior radiographs were used to measure CSA, AI, and GI.

Results

Fifty-seven patients were evaluated 6 months postoperatively. The mean patient age at surgery was 54.7 ± 7.7 years. On MRI studies, 41 patients (71.9%) had an intact repair and 16 patients (28.1%) had a full-thickness re-tear. There were no significant differences between the intact and re-tear group in regard to patient age ($P = .648$), initial tear size ($P = .205$), or fatty degeneration ($P = .508$). The mean CSA for the re-tear group ($37^\circ \pm 4^\circ$) was significantly higher than that in the intact group ($35^\circ \pm 3^\circ$; $P = .014$). If the CSA was $>38^\circ$, the odds ratio of having a re-tear was 3.78 (95% confidence interval 1.05 to 13.58; $P = .042$). Average AI for the re-tear group (0.73 ± 0.09) was significantly higher than that in the intact group (0.69 ± 0.06 ; $P = .049$). The mean GI was $17^\circ \pm 6^\circ$ for the intact group and $16^\circ \pm 6^\circ$ for the re-tear group ($P = .739$).

Conclusions

At short-term follow-up, higher CSA and AI significantly increased the re-tear risk after arthroscopic supraspinatus tendon repair. CSA $>38^\circ$ increased the re-tear risk almost 4-fold. Overall GI was elevated but did not correlate with failure rate.

59. PAIN

Physician burn out

Journal Summaries in Pain Management

Association between physician burnout and patient safety, professionalism, and patient satisfaction: A systematic review and meta-analysis

JAMA Internal Medicine — Panagioti M, et al. | September 06, 2018

This meta-analysis was conducted to determine whether physician burnout is related to an increased risk of patient safety incidents, suboptimal care outcomes due to low professionalism, and poorer patient satisfaction. Findings showed that physician burnout may result in jeopardized patient care, and reversal of this risk should be considered a worldwide health-care policy goal. These data call for efforts by health-care organizations to improve physician wellness, particularly for early-career physicians. Improvements in the methods of recording patient care quality and safety outcomes are required to concisely document the effects of physician burnout on the performance of health-care organizations.

Methods

- Using combinations of the key terms *physicians*, *burnout*, and *patient care*, researchers performed detailed standardized searches, with no language restriction, through MEDLINE, EMBASE, PsycInfo, and CINAHL databases until October 22, 2017.
- Hand-searched reference lists of eligible studies and other relevant systematic reviews were included.
- Quantitative observational studies were selected, and two independent reviewers were involved.
- Subgroup and sensitivity analyses were conducted following the main meta-analysis, and all analyses were performed using random-effects models.
- Formal tests for heterogeneity (I^2) and publication bias were also undertaken.
- The main outcomes of interest were the quantitative links between burnout and patient safety, professionalism, and patient satisfaction, which were reported as odds ratios (ORs) with their 95% confidence intervals (CIs).

Results

- Researchers identified a total of 5,234 records.
- The meta-analysis included 47 studies on 42,473 physicians (25,059 [59.0%] men; median age, 38 years [range: 27-53 years]).
- There was an association between physician burnout and an increased risk of patient safety incidents (OR: 1.96; 95% CI: 1.59–2.40), poorer quality of care due to low professionalism (OR: 2.31; 95% CI: 1.87–2.85), and attenuated patient satisfaction (OR: 2.28; 95% CI: 1.42–3.68).
- High heterogeneity and low to moderate study quality were reported.
- In residents and early-career (≤ 5 years post residency) physicians versus middle- and late-career physicians (Cohen $Q=7.27$; $P=0.003$), larger links between burnout and low professionalism were observed.
- The main results (Cohen $Q=8.14$; $P=0.007$) were remarkably affected by the reporting method of patient safety incidents and professionalism (physician-reported vs system-recorded).