

7. PELVIC ORGANS/WOMAN'S HEALTH

Hysterectomy does not increase risk of ovarian CA

Hysterectomy and risk of ovarian cancer: A systematic review and meta-analysis

Archives of Gynecology and Obstetrics

Huo X, et al. | January 07, 2019

In this systematic review and meta-analysis, researchers evaluated the association between hysterectomy for benign gynecologic disease and ovarian cancer risk.

Analyzing a total of 18 case-control studies in this meta-analysis, they identified no relationship between hysterectomy and ovarian cancer. In subgroup analysis, they noted protective effects for invasive endometrioid/clear cell carcinomas following hysterectomy and no statistical significance for serous and mucinous.

Intimate partner violence

Associations of intimate partner violence, sexual assault, and posttraumatic stress disorder with menopause symptoms among midlife and older women

JAMA — Gibson CJ, et al. | January 10, 2019

Via conducting this cross-sectional analysis of data from a multiethnic cohort of 2016 women 40 to 80 years of age in the Kaiser Permanente Northern California health care system, researchers determined the prevalence of intimate partner violence, sexual assault, and posttraumatic stress among midlife and older women. In addition, they assessed the association of these exposures with women's experience of menopause.

As per outcomes, lifetime history of intimate partner violence, sexual assault, and symptoms of posttraumatic stress disorder are common and are associated with menopause symptoms. Sleep-related, vasomotor, and vaginal symptoms were observed in relation to emotional intimate partner violence and posttraumatic stress; night sweats were reported in relation to physical intimate partner violence; and vaginal symptoms were noted in relation to sexual assault.

Impact of workplace sexual harassment

Association of sexual harassment and sexual assault with midlife women's mental and physical health

JAMA — Thurston RC, et al. | January 10, 2019

Researchers assessed if women with a history of sexual harassment or sexual assault have higher blood pressure, greater depression and anxiety, and poorer sleep vs women without this experience. They enrolled 304 nonsmoking women without cardiovascular disease from the community to have physical measurements (blood pressure, height, weight), medical history, and psychosocial assessments (workplace sexual harassment, sexual assault, depression, anxiety, sleep) taken.

Of these women, 19% reported experiencing workplace sexual harassment and 22% reported experiencing sexual assault. Women who experienced workplace sexual harassment reported significantly higher odds of hypertension and clinically poor sleep; sexual assault was associated with clinically higher depressive symptoms and anxiety as well as poor sleep vs those without this history, after adjusting for covariates

Nutrition and Dysmenorrhea

Nutrition as a potential factor of primary dysmenorrhea: A systematic review of observational studies

Gynecologic and Obstetric Investigation

Bajalan Z, et al. | January 11, 2019

Nutritional factors influencing primary dysmenorrhea were reviewed via analyzing observational studies which focused on nutritional factors affecting primary dysmenorrhea. Researchers retrieved 5,814 studies searching academic databases including Web of Science, EMBASE, Scopus, and PubMed (including Medline), of which 38 articles met inclusion criteria and were included for final data synthesis.

Outcomes suggest less menstrual pain in association with the increased consumption of fruits and vegetables as the sources of vitamins and minerals, as well as fish and milk and dairy products. Furthermore, negative associations were indicated of meal skipping and following a diet to lose weight with the severity of dysmenorrhea. Due to methodological heterogeneities for assessing nutritional habits and different methods of measuring dysmenorrhea pain, few studies reported inconclusive findings.

Ex reduces breast CA risk

Cancer Epidemiol Biomarkers Prev. 2018 Oct 17. doi: 10.1158/1055-9965.EPI-18-0674.

Adult Physical Activity and Breast Cancer Risk in Women with a Family History of Breast Cancer.

Niehoff NM¹, Nichols HB², Zhao S³, White AJ^{#4}, Sandler DP^{#4}.

Background: Recreational physical activity has been consistently associated with reduced breast cancer risk. Less is known about how family history of breast cancer affects the association and whether it varies by menopausal status.

Methods: The Sister Study is a cohort of 50,884 women who had a sister with breast cancer but no prior breast cancer themselves at enrollment. Women reported all recreational sport/exercise activities they participated in over the past 12 months. Hours/week and MET-hours/week of physical activity were considered in association with breast cancer risk. Hazard ratios (HR) and 95% confidence intervals (CI) were calculated with Cox regression. Extent of family history, examined as a modifier, was characterized by a Bayesian score incorporating characteristics of the family structure.

Results: During follow-up (average 8.4 years), 3,023 cases were diagnosed. Higher hours/week ($HR_{\geq 7 \text{ vs } < 1} = 0.77$; 95% CI, 0.66-0.90) and MET-hours/week ($HR_{\text{quartile4 vs 1}} = 0.75$; 95% CI, 0.67-0.85) of physical activity were associated with reduced postmenopausal breast cancer risk. Hours/week and MET-hours/week were associated with suggestively increased premenopausal breast cancer risk (MET-hours/week $HR_{\text{quartile4 vs 1}} = 1.25$; 95% CI, 0.98-1.60). Associations did not vary with extent of family history. However, the increased risk in premenopausal women may be limited to those with stronger family history.

Conclusions: In women with a family history of breast cancer, physical activity was associated with reduced postmenopausal, but not premenopausal, breast cancer risk and was not modified by extent of family history.

Impact: This was the first study to examine the association between physical activity and breast cancer risk in a large population with a family history of breast cancer.

Hypothyroidism

Effect of adequate thyroid hormone replacement on the hypothalamo-pituitary-gonadal axis in premenopausal women with primary hypothyroidism

European Thyroid Journal

Bachimanchi B, et al. | January 10, 2019

Among premenopausal women with overt hypothyroidism (thyroid-stimulating hormone [TSH] > 15 IU/L) in the early follicular phase of their natural menstrual cycles or after a progesterone challenge for gonadotropins, estradiol (E₂), and prolactin (PRL), researchers studied the effect of adequate thyroid hormone replacement on the hypothalamo-pituitary-gonadal axis. Forty premenopausal hypothyroid women were assessed at baseline and ≥2 months after adequate thyroxine (T₄) replacement. No changes were noted in the levels of the gonadotropins luteinizing hormone (LH) and follicle-stimulating hormone (FSH).

Findings suggested an association of hypothyroidism with a reversible partial suppression of the hypothalamo-pituitary-gonadal axis in premenopausal women with a mild PRL elevation demonstrated by lower E₂. They observed that hypothyroidism treatment improves the estrogen level and lowers the PRL level.

Vit. D and breast CA

Am J Epidemiol. 2019 Jan 4. doi: 10.1093/aje/kwy285.

The influence of a breast cancer diagnosis on serum 25-hydroxyvitamin D.

O'Brien KM^{1,2}, Sandler DP¹, House M³, Taylor JA¹, Weinberg CR².

Prospective and retrospective studies of vitamin D and breast cancer have produced discrepant results. This may be due to variations in serum 25-hydroxyvitamin D [25(OH)D] concentrations over time, including systematic changes after breast cancer diagnosis.

We measured total serum 25(OH)D in Sister Study participants who provided samples at baseline (2003-2009) and 4-10 years later (2013-2015). This included 827 women with an intervening breast cancer and 771 without. Although modestly correlated over time ($R=0.42$), 25(OH)D concentrations increased in both groups, with larger increases among cases (averaging 31.6 ng/mL at baseline, 43.5 ng/mL at follow-up) than controls (32.3 ng/mL at baseline, 40.4 ng/mL at follow-up).

Consequently, the estimated association between 25(OH)D and breast cancer depended on whether baseline (odds ratio [OR]=0.87, 95% confidence interval [CI]: 0.78-0.98 per 10 ng/mL) or second blood draw measures (OR=1.17, 95% CI: 1.08-1.26 per 10 ng/mL) were used. Concentrations were related to regular (>4 times/week) vitamin D supplement use, which became more common over time. Increases were greater in cases (56% to 84%) than in controls (56% to 77%).

Our results do not explain previously observed differences between retrospective and prospective studies, but do demonstrate how reverse causation and temporal trends in exposure can distort inference.

8. VISCERA

Red meat and colon CA

Association between intake of red and processed meat and survival in patients with colorectal cancer in a Pooled Analysis

Clinical Gastroenterology and Hepatology

Carr PR, et al. | January 10, 2019

Using Cox proportional hazards regression models, researchers evaluated the associations of red and processed meat consumption before the diagnosis of colorectal cancer (CRC) with overall and CRC-specific survival. They collected data from 7,627 patients with stage I-IV CRC from 10 studies in the International Survival Analysis in Colorectal Cancer Consortium. Of the 7,627 CRC patients, 2338 died over a median follow-up period of 5.1 years, including 1576 from CRC.

Findings revealed that red and processed meat intake prior to CRC diagnosis was not linked to shorter survival time after diagnosis in this large consortium of CRC patient cohorts. However, a possible weak adverse association cannot be excluded.

IBS death risk

Digestive Diseases and Sciences pp 1–8|

Mortality Risk of Inflammatory Bowel Disease: A Case–Control Study of New York State Death Records

Angelica Nocerino Alexandra Feathers Elena Ivanina Laura Durbin Arun Swaminath

Background

Studies examining the mortality risk of inflammatory bowel disease (IBD) have yielded conflicting results, and most do not account for recent advancements made in the treatment of Crohn’s disease (CD) and ulcerative colitis (UC). We aim to assess the overall, premature, and cause-specific mortality in IBD patients over a 17-year time period and to evaluate any differences since the introduction of biologic therapy.

Methods

A death record case–control study was performed to explore the odds of premature death (before age 65) and all-cause mortality among those with IBD. Cases consisted of IBD patients (1,129 with CD and 841 with UC) who died in New York State (NYS) from 1993 to 2010. Controls ($n = 7880$) were matched 4:1 on the basis of sex and zip code from those who died in NYS in the same time frame, without an IBD diagnosis.

Results

Compared with matched controls, those with CD (OR 1.56, CI 95% 1.34–1.82), but not UC (OR 0.72, CI 95% 0.59–0.89), were more likely to die prematurely. Both those with UC and CD were more likely to die from a gastrointestinal cause (CD OR 15.28, 95% CI 12.11–19.27; UC OR 14.02, 95% CI 10.76–18.26). There was no difference in the cause or age of death before and after the introduction of anti-TNF agents in those with IBD.

Conclusions

Both CD and UC cases were more likely to die of a gastrointestinal etiology, and CD patients were more likely to die prematurely. There was no significant difference in the premature death, average age of death, and cause of death in this IBD population after the availability of anti-TNF therapy.

11. UPPER C SPINE

Measuring upper cervical arterial stiffness

Shear wave elastography of the cervical arteries: A novel approach to the assessment of cervical arterial wall stiffness. An investigation of psychometric properties and intra-rater reliability

Lucy Thomas Juanita Low Kalos Chan Gail Durbridge

DOI: <https://doi.org/10.1016/j.msksp.2018.09.008>

Highlights

- Cervical arterial wall stiffness can be measured with shear wave elastography.
- Vertebral artery stiffness measures can be obtained in the upper cervical region.
- Stiffer vertebral than internal carotid walls may imply greater vulnerability to trauma.
- Psychometric properties of cervical artery elastography appear acceptable.

Abstract

Background

Cervical arterial dissection, can occur spontaneously and is a rare but catastrophic adverse event associated with neck manipulation. Pathophysiology involves altered integrity of the arterial wall increasing its vulnerability to minor trauma. Those at risk are difficult to detect. Previous screening investigated blood flow but altered mechanical properties as stiffness of cervical arterial wall could provide a more valid indication of arterial integrity or even early dissection.

Objectives

To investigate suitability and intra-rater reliability of shear wave ultrasound elastography to measure mechanical properties of the cervical arterial wall. Suitability was assessed by ability to track arteries along their length and measurement accuracy.

Design

Observational and intra-rater reliability study.

Methods

Internal carotid (ICA) and vertebral arteries (VA) of healthy participants were examined with shear wave elastography. Shear wave velocity (m/s) indicative of wall stiffness was measured with the head in the neutral position: proximally (C3-4) and distally (C1-2) where injuries have been more commonly reported. Proximal measures were repeated to assess intra-rater reliability.

Results

Thirty healthy participants (13 female), mean age of 29 (± 12.8) years were imaged. Mean VA wall stiffness (3.4 m/s) was greater than ICA (2.3 m/s) ($p < 0.000$). Intra-rater reliability for ICA was ICC 0.81 (CI 0.52 to 0.92) and for VA ICC 0.76 (CI 0.38 to 0.9). Standard error of measurement was 0.16 for ICA and 0.34 for VA.

Conclusions

Shear wave ultrasound elastography appears a suitable and reliable method to measure cervical arterial wall stiffness, justifying further research into its use for screening arterial integrity.

13 B. TMJ/ORAL

Caries prevention neonatal population

Prenatal oral health care and early childhood caries prevention: A systematic review and meta-analysis

Caries Research

Xiao J, et al. | January 11, 2019

In this study, investigators examined the relationships among prenatal oral healthcare, early childhood caries (ECC) incidence, and *Streptococcus mutans* carriage in children aged < 6 years.

They observed prenatal oral healthcare, including administration of fluoride supplements, oral examinations/cleanings, oral health education, dental treatment referrals, and xylitol gum chewing. They noticed a lower incidence of ECC and *S. mutans* carriage in the group that received oral healthcare intervention during pregnancy and early infancy vs the control group. They observed no differences in caries incidence in both the groups when fluoride supplementation was used during pregnancy.

33. MENISCUS

OpioiD use

Article in Press

Risk Factors for Postoperative Opioid Use in Arthroscopic Meniscal Surgery

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DOI: <https://doi.org/10.1016/j.arthro.2018.10.122>

Purpose

(1) To evaluate the influence of preoperative opioid use on postoperative consumption after arthroscopic meniscal surgery and (2) to determine preoperative patient factors associated with increased opioid use after meniscal surgery.

Methods

We performed a retrospective review of all patients with a primary diagnosis of a meniscal tear at a single institution between August 2013 and February 2017. Patients were classified as opioid nonusers if they had not received any opioid medications in the 3 months before meniscal surgery, as acute users if they received at least 1 opioid prescription within 1 month preceding meniscal surgery, or as chronic users if they received at least 1 opioid prescription within 3 months preceding meniscal surgery. Clinical records were reviewed for postoperative opioid use within a year after surgery. We also recorded patient demographic characteristics and the degree of knee osteoarthritis at the time of surgery using the Outerbridge classification.

Results

A total of 735 patients were included. The average age was 46.7 years (range, 12-79 years), and the average body mass index was 30.2 ± 6.2 (range, 13.3-55.4). Patients who were acute or chronic opioid users preoperatively were more likely to continue to use opioids beyond 1 month postoperatively ($P < .001$). A higher percentage of patients with advanced osteoarthritis (Outerbridge grade 3 or 4) were found to continue to use opioids at all time points beyond the first postoperative month ($P < .05$). Pair-wise comparisons showed that the number of total opioid prescriptions filled was significantly higher in the group with Outerbridge grade 1 or 2 and the group with Outerbridge grade 3 or 4 than the group with Outerbridge grade 0 ($P = .023$ and $P = .014$, respectively). No significant difference in postoperative opioid use was noted when we compared meniscal repair versus resection, primary procedure versus revision, different tear types, or concomitant procedures.

Conclusions

In patients undergoing arthroscopic meniscal surgery, the chronicity of preoperative opioid intake and degree of knee osteoarthritis were found to have a significant effect on postoperative opioid use.

41 A. ACHILLES TENDON AND CALF

Repair vs non repair

Research

Operative treatment versus nonoperative treatment of Achilles tendon ruptures: systematic review and meta-analysis

BMJ 2019; 364 doi: <https://doi.org/10.1136/bmj.k5120>

Objectives To compare re-rupture rate, complication rate, and functional outcome after operative versus nonoperative treatment of Achilles tendon ruptures; to compare re-rupture rate after early and late full weight bearing; to evaluate re-rupture rate after functional rehabilitation with early range of motion; and to compare effect estimates from randomised controlled trials and observational studies.

Design Systematic review and meta-analysis.

Data sources PubMed/Medline, Embase, CENTRAL, and CINAHL databases were last searched on 25 April 2018 for studies comparing operative versus nonoperative treatment of Achilles tendon ruptures.

Study selection criteria Randomised controlled trials and observational studies reporting on comparison of operative versus nonoperative treatment of acute Achilles tendon ruptures.

Data extraction Data extraction was performed independently in pairs, by four reviewers, with the use of a predefined data extraction file. Outcomes were pooled using random effects models and presented as risk difference, risk ratio, or mean difference, with 95% confidence interval.

Results 29 studies were included—10 randomised controlled trials and 19 observational studies. The 10 trials included 944 (6%) patients, and the 19 observational studies included 14 918 (94%) patients. A significant reduction in re-ruptures was seen after operative treatment (2.3%) compared with nonoperative treatment (3.9%) (risk difference 1.6%; risk ratio 0.43, 95% confidence interval 0.31 to 0.60; $P<0.001$; $I^2=22\%$). Operative treatment resulted in a significantly higher complication rate than nonoperative treatment (4.9% v 1.6%; risk difference 3.3%; risk ratio 2.76, 1.84 to 4.13; $P<0.001$; $I^2=45\%$). The main difference in complication rate was attributable to the incidence of infection (2.8%) in the operative group. A similar reduction in re-rupture rate in favour of operative treatment was seen after both early and late full weight bearing. No significant difference in re-rupture rate was seen between operative and nonoperative treatment in studies that used accelerated functional rehabilitation with early range of motion (risk ratio 0.60, 0.26 to 1.37; $P=0.23$; $I^2=0\%$). No difference in effect estimates was seen between randomised controlled trials and observational studies.

Conclusions This meta-analysis shows that operative treatment of Achilles tendon ruptures reduces the risk of re-rupture compared with nonoperative treatment. However, re-rupture rates are low and differences between treatment groups are small (risk difference 1.6%). Operative treatment results in a higher risk of other complications (risk difference 3.3%). The final decision on the management of acute Achilles tendon ruptures should be based on patient specific factors and shared decision making. This review emphasises the potential benefits of adding high quality observational studies in meta-analyses for the evaluation of objective outcome measures after surgical treatment.

50 B. PNF

Phrenic nerve injury Massery

Rehabilitative Surgery pp 129-137|

Physical Therapy Following Phrenic Nerve Graft Surgery: Implications Far Beyond Breathing

Mary Massery

Rehabilitation of the diaphragm following a phrenic nerve graft involves a detailed pre-/postsurgical multisystem evaluation by a physical therapist to determine the extent of the long-standing unilateral or bilateral phrenic nerve paralysis.

Primary (i.e., respiratory, endurance) and secondary (i.e., posture, pain) impairments are described. A bilateral paralysis has a devastating impact on the patient's survival, often requiring mechanical ventilation, but unilateral paralysis is also devastating due to compensatory postural control strategies which can lead to balance impairments, gait deviations, sleep disruptions, musculoskeletal restrictions/pain, incontinence, and an ongoing risk of respiratory complications. If the consequences of phrenic nerve paralysis are not fully understood, assessed, and treated, the patient's long-term quality of life outcomes may be impaired.

Research with spinal cord injury gives physical therapists guidance for the development of an appropriate treatment approach to this population, but research specific to this novel area of phrenic nerve restoration is needed.

52. EXERCISE**Exercise over a lifetime improve mental function****Lifetime physical activity and late-life cognitive function: the Rancho Bernardo study**

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Richard Elizabeth Barrett-Connor Linda K McEvoy
Age and Ageing, afy188, <https://doi.org/10.1093/ageing/afy188>

Background

physical activity in older age has been associated with better cognitive function, but the role of earlier life physical activity is less well understood.

Objective

determine associations between physical activity throughout the lifespan and cognitive function in older age.

Design

cross-sectional study.

Setting

the Rancho Bernardo Study of Healthy Aging in southern California.

Subjects

A total of 1,826 community-dwelling men and women (60–99 years) who attended a research visit in 1988–92.

Methods

participants underwent cognitive testing at older age, and reported physical activity as a teenager, at age 30 years, 50 years and currently. For each time-point, participants were classified as regularly active (3+ times/week) or inactive.

Results

regular physical activity was associated with better cognitive function, with physical activity at older ages showing the strongest associations. Physical activity in older age was associated with better global cognitive function, executive function and episodic memory, regardless of intensity. Intense physical activity in teenage years was associated with better late-life global cognitive function in women. Teenage physical activity interacted with older age physical activity on executive function; those active at both periods performed better than those active at only one period. Similar patterns of associations were observed after excluding individuals with poor health.

Conclusions

regular physical activity in older age, regardless of intensity, is associated with better cognitive function. Physical activity in teenage years may enhance cognitive reserve to protect against age-related decline in executive function. Further research is needed to assess the effect of physical activity across the lifespan on healthy brain ageing.

55. SCOLIOSIS

Bracing

Eur Spine J. 2019 Jan 3. doi: 10.1007/s00586-018-05870-6.

Predictive factors for brace treatment outcome in adolescent idiopathic scoliosis: a best-evidence synthesis.

van den Bogaart M¹, van Royen BJ², Haanstra TM¹, de Kleuver M³, Faraj SSA¹.

PURPOSE:

To evaluate predictive factors for brace treatment outcome in adolescent idiopathic scoliosis (AIS) by a systematic review of the literature.

METHODS:

Eligible studies evaluating one or more predictive factors for brace treatment outcome were included following a systematic search in PubMed and EMBASE on October 23, 2017. Inclusion criteria were: (1) subjects diagnosed with AIS, (2) age \leq 18 years, (3) treated with a thoraco-lumbo-sacral orthosis (TLSO), and (4) evaluated one or more predictive factors of treatment outcome (failure and/or success). The methodological quality of included studies was independently assessed by two authors. Pooling was not possible due to heterogeneity in statistical analysis. Predictive factors were presented according to a best-evidence synthesis.

RESULTS:

The literature search identified 26 studies that met the inclusion criteria, and multiple types of TLSO braces were identified (Boston, Wilmington, Chêneau, Osaka Medical College, Dresdner Scoliosis Orthosis and SPoRT). A total of 19 radiographic and 8 clinical predictive factors were reported. Strong evidence was found that lack of initial in-brace correction is associated with treatment failure. Moderate evidence suggests that brace wear time is associated with failure and success, whereas initial curve magnitude and curve type are not.

CONCLUSION:

The results of this review suggest that lack of initial in-brace correction is strongly associated with brace treatment failure. Future studies on the threshold for minimal immediate in-brace correction, as a potential indication for brace treatment, are recommended. These slides can be retrieved under Electronic Supplementary Material.

59. PAIN**Neuropathic pain****Characteristics of patients with neuropathic pain syndromes screened by the painDETECT questionnaire and diagnosed by physician exam**

Journal of Pain Research —

Kudel I, et al. | January 10, 2019

Researchers studied the clinical characteristics, treatment usage, and health outcomes of US Adults with scores exceeding the threshold for probable neuropathic pain (NeP) (painDETECT ≥ 19) and diagnosed with NeP by a qualified physician. Participants (n=295) [predominantly female (64.4%), middle-aged (53.9%), and white (51.5%)] reported chronic low back pain as the most frequently diagnosed major NeP syndrome (n=166), followed by diabetic peripheral neuropathy (n=58), post-trauma neuropathy (n=47), post-surgical neuropathy (n=28), and central NeP (n=23).

Findings revealed high rates of comorbid disease across each NeP subtype, including arthritis and high blood pressure, as well as symptomology that included numbness and changes in muscular strength. NeP pain medication most commonly used were non-steroidal anti-inflammatory drugs, weak opioids, and strong opioids. Generally, similar levels of dysfunction were noted in all six NeP groups on all self-report measures. Findings thereby suggest medically complex nature of patients with NeP across different etiologies.

60. COMPLEX REGIONAL PAIN

Spinal cord stimulations helps

High-frequency spinal cord stimulation at 10 kHz for the treatment of complex regional pain syndrome: A case series of patients with or without previous spinal cord stimulator implantation

Pain Practice — Gill JS, et al. | January 09, 2019

Researchers reported on the initial experience of high-frequency spinal cord stimulation at 10 kHz (HF10-SCS) in 13 patients with complex regional pain syndrome (CRPS), some of whom had been exposed to low-frequency SCS, via this retrospective case series. Among these patients, 12 went on to receive a permanent implant.

During an average follow-up period of 12.1 ± 4.6 months, they observed the responder rate (50% pain relief) of 67% among the patients receiving permanent implants. No adverse events were reported. Hence for patients with CRPS who have chronic intractable pain, including those who had suboptimal results from traditional SCS, HF10-SCS seems to be a viable option.

61. FIBROMYALGIA**Light activity helps**

Arthritis Care Res (Hoboken). 2018 Jul 28. doi: 10.1002/acr.23717.

Substituting Sedentary Time With Physical Activity in Fibromyalgia and the Association With Quality of Life and Impact of the Disease: The al-Ándalus Project.

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OBJECTIVE:

There is an overall awareness of the detrimental health effects of sedentary time (ST) in fibromyalgia; however, data are limited on how replacement of ST with physical activity (PA) of different intensity may be related to health in this condition. The aim of this study was to examine how a substitution of ST with light PA (LPA) or moderate-to-vigorous PA (MVPA) is associated with quality of life and disease impact.

METHODS:

This study comprised 407 women with fibromyalgia, mean \pm SD age 51.4 ± 7.6 years. The time spent in ST and PA was measured with triaxial accelerometry. Quality of life and disease impact were assessed using the Short Form 36 (SF-36) health survey and the Revised Fibromyalgia Impact Questionnaire (FIQR), respectively. The substitution of ST with an equivalent time of LPA or MVPA and the associated outcomes were examined using isotemporal substitution analyses.

RESULTS:

Substituting 30 minutes of ST with LPA in the isotemporal model was associated with better scores in bodily pain ($B = 0.55$), vitality ($B = 0.74$), and social functioning ($B = 1.45$) according to the SF-36, and better scores at all of the domains (function, overall impact, symptoms, and total impact) of the FIQR (B ranging from -0.95 to -0.27 ; all $P < 0.05$). When ST was replaced with MVPA, better physical role ($B = 2.30$) and social functioning ($B = 4.11$) of the SF-36 and function of the FIQR ($B = -0.73$) were observed (all $P < 0.05$).

CONCLUSION:

In regression models, allocation of time of sedentary behavior to either LPA or MVPA was associated with better quality of life and lower disease impact in women with fibromyalgia.

62 A. NUTRITION/VITAMINS

Diets

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What Is the Healthiest Diet for 2019? I was giving a talk around the Mediterranean, and, as I explained the evidence for the benefits of their nutritional habits, the feedback was, “we don’t eat like that!” Maybe we should change the name to the “scientific diet.” Below is a summary of the science from a number of different studies that help us understand how to counsel our patients regarding the power of nutrition for 2019.

The Mediterranean Diet This is the scientific winner. It is high in whole grains, fiber, vegetables, fruit, fish, and good fats rich in linoleic acid. It is low in red and processed meat, sugar, and total calories. Recent studies have shown that this eating pattern reduces inflammation associated with a reduction in cardiovascular mortality.

The Ketogenic Diet As I write this, my wife is sizzling bacon on the stove as she hopes to use keto to shed a few pounds. To sustain my marriage, I have learned not to lecture her on nutrition science. Similar in theory to the low-carb Atkins diet, which came before, the ketogenic diet is centered on the process of ketosis, which occurs when the body is deprived of carbohydrates. Weight loss follows as the body burns fat for energy. If a person is overweight, weight loss of any kind, by any method, results in improved health. But we don’t have long-term data showing when or if there is a tipping point that occurs between the potential harm of eating a diet high in animal fat and the benefits of the weight loss. There is also the question of which is more harmful: excess sugar or excess animal fat? Science supports the reduction of both. I tolerate my patients’ (and my wife’s) using this diet in the short term to help get a jump start, but then encourage the transition to the “scientific diet,” which is better balanced with healthier fats and less sugar, before the plight of chronic inflammation sets in.

The Elimination Diet We should all cringe when blanket statements like “gluten is the devil” are made. The majority of people tolerate gluten just fine. But, as nutritional technology has tried to improve wheat by cross-hybridizing various strains, it has created novel proteins that may trigger an immune response along the gut’s immune system, resulting in gluten sensitivity or even celiac disease. And gluten is not the only protein that we may react to. Proteins found in cow’s milk, eggs, soy, shrimp, peanuts, and corn (to name a few) can also trigger a reaction. In fact, the gold standard therapy for eosinophilic esophagitis is an elimination diet. The second-line therapy is bathing the esophagus in steroids. One resolves the problem, the other suppresses it.

This requires a personalized approach, and it can be a highly effective clinical tool in reducing GI symptoms and systemic inflammation. But the prescriber needs to be careful not to cause orthorexia—the fear associated with an obsession to “eat the right thing.” We don’t want to create a fear of food. Here is a handout you can use with your patients on how to do an elimination diet.

The Intermittent Fasting Diet Fasting has become popular recently, but, in fact, is one of the oldest therapies known. The health benefits are more than from weight loss alone. Fasting improves metabolic function and may stimulate neuroprotective effects. Of the different fasting regimens, I have found a 12-hour daily fast (7 PM to 7 AM or 6 PM to 6 AM if an early riser) to be the easiest (but not easy) to follow.

The “Smile While You Eat” Diet Okay; I just made this one up. But how we eat and how we perceive what we eat matters. We have a lot to learn from the French on this one. Despite not always eating the scientific diet, the French often live longer, which may be more related to how they eat than what they eat. A classic study by Rozin¹ showed a picture of a piece of chocolate cake to two groups, one from America and the other from France. Each was asked to associate one word with the image. The number-one French word associated with the cake was “celebration.” The number-one American word was “guilt.” The hormone we use to study the stress response is cortisol. And, if we eat under stress and guilt, we will increase cortisol, resulting in that cake being stored as fat. But, if we eat the same food with a healthier perception of celebration and savor each bite, we will likely eat less, store less, and enjoy life more.