



## Selección de Resúmenes de Menopausia

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**Am J Physiol Endocrinol Metab. 1998 Oct 1;275(4):E626-E634. doi: 10.1152/ajpendo.1998.275.4.E626.**

### **Smaller differences in total and regional adiposity with age in women who regularly perform endurance exercise.**

Van Pelt RE, Davy KP, Stevenson ET, Wilson TM, Jones PP, Desouza CA, Seals DR.

Our aim was to determine if women who regularly perform endurance exercise demonstrate age-related elevations in body mass and adiposity. Ninety-five healthy females were studied: premenopausal ( $n = 28$ ; mean  $\pm$  SE age  $30 \pm 1$  yr) and postmenopausal ( $n = 31$ ;  $56 \pm 1$  yr) endurance-trained runners and premenopausal ( $n = 17$ ;  $29 \pm 1$  yr) and postmenopausal ( $n = 19$ ;  $61 \pm 1$  yr) sedentary controls. In the runners, body mass did not differ across age, but percent fat and fat mass were higher ( $P < 0.05$ ) in the postmenopausal women. The age-related difference in total body fat, however, was only  $\sim 50\%$  as great ( $P < 0.01$ ) as that observed in the sedentary controls due in part to smaller age-related differences in central (truncal) fat. The higher fat mass in the postmenopausal runners was modestly (inversely) related to both exercise volume ( $r = -0.44$ ,  $P < 0.01$ ) and maximal oxygen consumption ( $r = -0.41$ ,  $P < 0.01$ ). The present findings provide experimental support for the hypothesis that women who regularly engage in vigorous endurance exercise may not gain body weight, undergo only a modest increase in total body fat, and do not demonstrate a significant elevation in central adiposity with age.

**Front Horm Res. 2018;50:66-71. doi: 10.1159/000486068. Epub 2018 Mar 29.**

### **Practical Issues in Vitamin D Replacement.**

Adler RA.

Practical clinical guidance for vitamin D assessment and management relies on a strong evidence base, but unfortunately there are many deficiencies in our current knowledge. For the general population the Institute of Medicine recommendations are likely to provide adequate vitamin D levels without harms. Thus, most adults should ingest 600-800 IU (international units) in diet and supplements with up to 4,000 IU daily likely to be safe. In certain populations, such as those with osteoporosis or after bariatric surgery, it is important to know the levels of circulating 25-hydroxyvitamin D, but general screening has not been shown to improve health. One expert group has recommended a "reasonable" level of 30 ng/mL in those individuals for whom testing is required.

**J Clin Endocrinol Metab. 2018 Mar 27. doi: 10.1210/jc.2017-02449. [Epub ahead of print]**

### **Menopausal hormone therapy is associated with reduced total and visceral adiposity, the OsteoLaus cohort.**

Papadakis GE, Hans D, Rodriguez EG, Vollenweider P, Waeber G, Marques-Vidal P, Lamy O.

Context: Following menopause fat mass (FM) and visceral adipose tissue (VAT) increase, while non-bone lean mass (LBM) decreases. Whether menopausal hormone therapy (MHT) reverses these changes remains controversial. Objective: To assess the effect of MHT on FM, VAT and LBM before and after its withdrawal and evaluate potential confounders. Design: Cross-sectional study. Setting: General community. Patients or Other Participants: Women of the OsteoLaus cohort (50-80 years old) who underwent dual-energy X-ray absorptiometry (DXA) with body composition assessment. After excluding women with estrogen-modifying medications, the 1053 participants were categorized into current (CU), past (PU) and never (NU) MHT users. Intervention(s): none. Main Outcome Measure(s): VAT measured by DXA was the primary outcome. We assessed subtotal and android FM, LBM, muscle strength (hand grip) and confounding factors (caloric intake, physical activity, biomarkers). Results: The groups significantly differed in age,  $NU < CU < PU$ . Age-adjusted VAT was lower in CU than PU ( $p = 0.03$ ). CU exhibited lower age-adjusted BMI ( $-0.9$  kg/m<sup>2</sup>) and a trend for lower FM ( $-1.3$  kg). The 10-year gain of VAT ( $p < 0.01$ ), subtotal and android FM ( $p < 0.05$ ) was prevented in CU. No difference in LBM or hand grip was detected. No residual effect was detected for PU, including for early MHT discontinuers. The confounding factors did not significantly differ between groups except for higher caloric intake in PU compared with NU. Conclusions: MHT is associated with significantly decreased VAT, BMI and android FM. No benefit is detected for LBM. The benefits are not preserved in PU, suggesting caution when MHT is discontinued.

**Am J Physiol Heart Circ Physiol. 1998 May 1;274(5):H1539-H1544. doi: 10.1152/ajpheart.1998.274.5.H1539.**

## **Estrogen replacement, vascular distensibility, and blood pressures in postmenopausal women.**

De Meersman RE1, Zion AS1, Giardina EGV1, Weir JP1, Lieberman JS1, Downey JA1.

The pathogenesis of blood pressure (BP) rise in aging women remains unexplained, and one of the many incriminating factors may include abnormalities in arteriolar resistance vessels. The aim of this study was to determine the effects of unopposed estrogen on arteriolar distensibility, baroreceptor sensitivity (BRS), BP changes, and rate-pressure product (RPP). We tested the hypotheses that estrogen replacement therapy (ERT) enhances arteriolar distensibility and ameliorates BRS, which leads to decreases in BP and RPP. Postmenopausal women participated in a single-blind crossover study; the participants of this study, after baseline measurements, were randomly assigned to receive estrogen (ERT) or a drug-free treatment with a 6-wk washout period between treatments. The single-blind design was instituted because subjects become unblinded due to physiological changes (i.e., fluid shifts, weight gain, and secretory changes) associated with estrogen intake. However, investigators and technicians involved in data collection and analyses remained blind. After each treatment, subjects performed identical autonomic tests, during which electrocardiograms, beat-by-beat BPs, and respiration were recorded. The area under the dicrotic notch of the BP wave was used as an index of arteriolar distensibility. The magnitude of the reflex bradycardia after a precipitous rise in BP was used to determine BRS. Power spectral analysis of heart rate variability was used to assess autonomic activity. BPs were recorded from resistance vessels in the finger using a beat-by-beat photoplethysmographic device. RPP, a noninvasive marker of myocardial oxygen consumption, was calculated. Repeated-measures analyses of variance revealed a significantly enhanced arteriolar distensibility and BRS after ERT ( $P < 0.05$ ). A trend of a lower sympathovagal balance at rest was observed after ERT; however, this trend did not reach statistical significance ( $P = 0.061$ ) compared with the other treatments. The above autonomic changes produced significantly lower systolic and diastolic BP changes and RPPs ( $P < 0.05$ ) at rest and during isometric exercise. We conclude that short-term unopposed ERT favorably enhances arteriolar distensibility, BRS, and hemodynamic parameters in postmenopausal women. These findings have clinical implications in the goals for treating cardiovascular risk factors in aging women.

**Climacteric. 2018 Mar 27;1-3. doi: 10.1080/13697137.2018.1450856. [Epub ahead of print]**

## **Vaginal progesterone and the vaginal first-pass effect.**

Warren MP.

Vaginal progesterone is an effective alternative to systemic administration by oral or intramuscular use. The first-pass effect is reviewed, as are the most common uses for this route of delivery. This includes use in hormone replacement therapy, luteal support particularly in assisted reproduction, and avoidance of side-effects of oral progestins and progesterone. Vaginal progesterone represents a unique therapeutic solution to a number of clinical problems.

**Appl Nurs Res. 2018 Apr;40:90-98. doi: 10.1016/j.apnr.2017.12.011. Epub 2017 Dec 19.**

## **Exercises improve body composition, cardiovascular risk factors and bone mineral density for menopausal women: A systematic review and meta-analysis of randomized controlled trials.**

Yeh ML, Liao RW, Hsu CC, Chung YC, Lin JG.

**BACKGROUND:** Menopause has been considered as an aggravating factor for developing cardiovascular diseases and the metabolic syndromes for women. Exercise might be an effective intervention for reducing such threats. **OBJECTIVE:** The purpose of this study was to evaluate the exercise effects on body composition, cardiovascular risk factors, and bone mineral density of menopausal women. **METHODS:** Two reviewers did a complete search of five electronic database (Medline, PubMed, Cochrane Central Register of Controlled Trials, CINAHL, and the Chinese Electronic Periodical Service) records up to January 31, 2014. Randomized controlled trials (RCTs) that compared female menopausal participants with exercises, and those without exercise or with placebo were included. Risk of bias was classified based on the Cochrane Collaboration tool, the meta-analysis was conducted using Comprehensive Meta-Analysis Version 2.2. The study selection, data extraction, and validation were performed independently by the 2 reviewers. **RESULTS:** A total of 17 RCTs with 792 participants were included for meta-analysis. Among the eight RCTs (247 participants), a moderate effect size of exercise on body fat was found (SMD=-0.34, 95% CI: -0.60 to -0.08). In five RCTs (195 participants), a moderate effect size of exercise on waist circumference (SMD=-0.39, 95% CI: -0.68 to -0.09), in seven RCTs (162 participants), a moderate effect size on triglyceride level (SMD=-0.37, 95% CI: -0.62 to -0.11), and in five RCTs (311 participants), a moderate effect size on bone mineral density (SMD=0.38, 95% CI: 0.08-0.68). Subgroup analysis revealed a significant effect of aerobic exercise on body fat (SMD=-0.29, 95% CI: -

0.53 to -0.06), and a short-term exercise on body fat (SMD=-0.50, 95% CI: -0.89 to -0.11) and on triglycerides (SMD=-0.42, 95% CI: -0.79 to -0.04). The trials included in this meta-analysis were small and some had methodologic limitations. **CONCLUSIONS:** This study provides evidences to clinical practice for menopause women that exercise, compared with nonexercise or placebo exerted significant benefits on body fat, waist circumference, triglyceride level, and lumbar spine bone mineral density. Particularly, aerobic exercise did help menopausal women improve their body fat. A short-term exercise intervention had a benefit on not only body fat but also triglyceride level. However, well-designed, well-executed RCTs, and a detailed long-term clinical research should be needed in the future.

**Int J Cancer. 2018 Mar 25. doi: 10.1002/ijc.31387. [Epub ahead of print]**

### **A dietary pattern based on estrogen metabolism is associated with breast cancer risk in a prospective cohort of postmenopausal women.**

Guinter MA, McLain AC, Merchant AT, Sandler DP, Steck SE.

Increased exposure to estrogen is a risk factor for postmenopausal breast cancer, and dietary factors can influence estrogen metabolism. However, studies of diet and breast cancer have been inconclusive. We developed a dietary pattern associated with levels of unconjugated estradiol and the ratio of 2- and 16-hydroxylated estrogen metabolites in a subsample of Prostate, Lung, Colorectal and Ovarian Screening Trial (PLCO) participants (n=653) using reduced rank regression, and examined its association with postmenopausal breast cancer prospectively in the larger PLCO cohort (n=27,488). The estrogen-related dietary pattern (ERDP) was comprised of foods with positively-weighted intakes (non-whole/refined grains, tomatoes, cruciferous vegetables, cheese, fish/shellfish high in  $\omega$ -3 fatty acids, franks/luncheon meats) and negatively-weighted intakes (nuts/seeds, other vegetables, fish/shellfish low in  $\omega$ -3 fatty acids, yogurt, coffee). A 1-unit increase in the ERDP score was associated with an increase in total (HR:1.09, 95% CI:1.01-1.18), invasive (HR:1.13; 95% CI:1.04-1.24) and estrogen receptor (ER)-positive (HR:1.13, 95% CI:1.02-1.24) breast cancer risk after adjustment for confounders. Associations were observed for the fourth quartile of ERDP compared to the first quartile for overall breast cancer (HR:1.14; 95% CI:0.98-1.32), invasive cases (HR:1.20, 95% CI:1.02-1.42) and ER-positive cases (HR:1.19; 95% CI:0.99-1.41). The increased risk associated with increasing ERDP score was more apparent in strata of some effect modifiers (postmenopausal hormone therapy non-users and non-obese participants) where the relative estrogen exposure due to that factor was lowest, although the p-values for interaction were not statistically significant. Results suggest a dietary pattern based on estrogen metabolism is positively associated with postmenopausal breast cancer risk, possibly through an estrogenic influence. This article is protected by copyright. All rights reserved.

**Osteoporos Int. 2018 Mar 25. doi: 10.1007/s00198-018-4486-9. [Epub ahead of print]**

### **Thiazide diuretic usage and risk of fracture: a meta-analysis of cohort studies.**

Xiao X, Xu Y, Wu Q.

Inconsistent findings in regard to association between thiazide diuretic use and the risk of fracture have been reported during the past decade. This updated meta-analysis, which pooled data from 11 qualified prospective designed studies, found that thiazides have a significant protective effect on fracture risk. **INTRODUCTION:** An updated comprehensive meta-analysis examine the association between thiazide diuretic use and the risk of fracture is needed. **METHODS:** Cohort studies regarding thiazide diuretic exposure and the risk of fracture, published from inception to May 1 2017, were identified through MEDLINE, EMBASE, SCOPUS, and the Cochrane Database of Systematic Reviews. The literature search, study selection, study appraisal, and data extraction were pre-defined in the protocol and were independently conducted by two investigators. Due to the heterogeneity of the original studies, a random effects model was used to pool the confounder-adjusted relative risk (RR). **RESULTS:** Eleven eligible cohort studies involving 2,193,160 participants were included for analysis. Overall, thiazide diuretic users, as compared with non-users, had a significant 14% reduction in the risk of all fractures (relative risk [RR], 0.86; 95% confidence interval [CI], 0.80-0.93; p=0.009) and an 18% reduction in the risk of hip fracture (RR, 0.82; 95%CI, 0.80-0.93; p=0.009). However, the effect size associated with thiazide use became slightly weaker when the analysis was limited to only high-quality original studies (quality score >8) (RR, 0.89; 95%CI, 0.80-0.99; p=0.005), studies with a larger sample size (>10,000) (RR, 0.90; 95%CI, 0.80-1.00; p=0.002), and studies published after 2007 (RR, 0.92; 95%CI, 0.82-1.02; p=0.001). **CONCLUSION:** Our findings indicate that thiazide diuretic use may convey a decreased risk of fracture and as such, the protective effect of this class of medicine should be considered when prescribing thiazide diuretics in clinical practice.