 **Selección de Resúmenes de Menopausia**

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Juan Enrique Blümel. Departamento Medicina Sur. Universidad de Chile

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**Vitamin D and menopause-A narrative review.**

Lerchbaum E.

There is accumulating evidence that vitamin D (VD) has important effects besides its well-known role in calcium and bone metabolism. Hypovitaminosis D is associated with cardiovascular disease, the metabolic syndrome, type 2 diabetes mellitus, cancer as well as with increased mortality. Further, VD deficiency is related to depression and impaired cognitive function. Increasing age and elevated body fat mass contribute to an increased risk of VD deficiency. Further, some studies report a relationship between VD and estrogen metabolism. During menopause, the decline of estrogens results in increased bone turnover, a decrease in bone mineral density and elevated fracture risk. Musculoskeletal discomfort might impair quality of life, mood disturbances do frequently occur and the risk of metabolic and cardiovascular disease increases. Moreover, body composition changes including increased fat mass and decreased lean mass, which results in an increased risk of VD deficiency. Conversely, VD deficiency might aggravate discomfort as well as diseases that occur during menopause. There are precise recommendations regarding a sufficient VD intake in order to prevent bone loss in peri- and postmenopausal women. Considering the fact that VD deficiency and menopause share risk factors beyond bone health such as cardiovascular, metabolic, cognitive and affective disorders, a sufficient VD status should be obtained in all peri- and postmenopausal women. This might be beneficial not only considering bone health but also regarding cognitive, affective, metabolic and cardiovascular health of women.

[**J Hypertens.**](http://www.ncbi.nlm.nih.gov/pubmed/24991872) **2014 Jul 2. [Epub ahead of print]**

**The effect of hormone therapy on mean blood pressure and visit-to-visit blood pressure variability in postmenopausal women: results from the Women's Health Initiative randomized controlled trials.**

[Shimbo D](http://www.ncbi.nlm.nih.gov/pubmed?term=Shimbo%20D%5BAuthor%5D&cauthor=true&cauthor_uid=24991872)1, [Wang L](http://www.ncbi.nlm.nih.gov/pubmed?term=Wang%20L%5BAuthor%5D&cauthor=true&cauthor_uid=24991872), [Lamonte MJ](http://www.ncbi.nlm.nih.gov/pubmed?term=Lamonte%20MJ%5BAuthor%5D&cauthor=true&cauthor_uid=24991872), [Allison M](http://www.ncbi.nlm.nih.gov/pubmed?term=Allison%20M%5BAuthor%5D&cauthor=true&cauthor_uid=24991872), [Wellenius GA](http://www.ncbi.nlm.nih.gov/pubmed?term=Wellenius%20GA%5BAuthor%5D&cauthor=true&cauthor_uid=24991872), [Bavry AA](http://www.ncbi.nlm.nih.gov/pubmed?term=Bavry%20AA%5BAuthor%5D&cauthor=true&cauthor_uid=24991872), [Martin LW](http://www.ncbi.nlm.nih.gov/pubmed?term=Martin%20LW%5BAuthor%5D&cauthor=true&cauthor_uid=24991872), [Aragaki A](http://www.ncbi.nlm.nih.gov/pubmed?term=Aragaki%20A%5BAuthor%5D&cauthor=true&cauthor_uid=24991872), [Newman JD](http://www.ncbi.nlm.nih.gov/pubmed?term=Newman%20JD%5BAuthor%5D&cauthor=true&cauthor_uid=24991872), et al.

**OBJECTIVES:** Mean and visit-to-visit variability (VVV) of blood pressure (BP) are associated with an increased cardiovascular disease risk. We examined the effect of hormone therapy on mean and VVV of BP in postmenopausal women from the Women's Health Initiative (WHI) randomized controlled trials. **METHODS:** BP was measured at baseline and annually in the two WHI hormone therapy trials, in which 10 739 and 16 608 postmenopausal women were randomized to conjugated equine estrogens (CEEs, 0.625 mg/day) or placebo, and CEEs and medroxyprogesterone acetate (MPA, 2.5 mg/day) or placebo, respectively. **RESULTS:** At the first annual visit (year 1), mean SBP was 1.04 mmHg [95% confidence interval (CI) 0.58, 1.50] and 1.35 mmHg (95% CI 0.99, 1.72) higher in the CEEs and CEEs and MPA arms, respectively, compared with the corresponding placebos. These effects remained stable after year 1. CEEs also increased the VVV of SBP (ratio of VVV in CEEs vs. placebo, 1.03; P < 0.001), whereas CEEs and MPA did not (ratio of VVV in CEEs and MPA vs. placebo, 1.01; P = 0.20). After accounting for study drug adherence, the effects of CEEs and CEEs and MPA on mean SBP increased at year 1, and the differences in the CEEs and CEEs and MPA arms vs. placebos also continued to increase after year 1. Further, both CEEs and CEEs and MPA significantly increased the VVV of SBP (ratio of VVV in CEEs vs. placebo, 1.04; P < 0.001; ratio of VVV in CEEs and MPA vs. placebo, 1.05; P < 0.001). **CONCLUSION:** Among postmenopausal women, CEEs and CEEs and MPA at conventional doses increased mean and VVV of SBP.

[**Best Pract Res Clin Obstet Gynaecol.**](http://www.ncbi.nlm.nih.gov/pubmed/24990143) **2014 Jun 5. doi: 10.1016/j.bpobgyn.2014.05.006. [Epub ahead of print]**

**The contraception needs of the perimenopausal woman.**

[Hardman SM](http://www.ncbi.nlm.nih.gov/pubmed?term=Hardman%20SM%5BAuthor%5D&cauthor=true&cauthor_uid=24990143)1, [Gebbie AE](http://www.ncbi.nlm.nih.gov/pubmed?term=Gebbie%20AE%5BAuthor%5D&cauthor=true&cauthor_uid=24990143)2.

Perimenopausal women have low fertility but must still be advised to use contraception until natural sterility is reached if they are sexually active. Patterns of contraceptive use vary in different countries worldwide. Long-acting reversible contraceptive methods offer reliable contraception that may be an alternative to sterilisation. Hormonal methods confer significant non-contraceptive benefits, and each individual woman should weigh up the benefits and risks of a particular method. No method of contraception is contraindicated by age alone, although combined hormonal contraception and injectable progestogens are not recommended for women over the age of 50 years. The intrauterine system has particular advantages as a low-dose method of effective hormonal contraception, which also offers control of menstrual dysfunction and endometrial protection in women requiring oestrogen replacement. Condoms are recommended for personal protection against sexually transmitted infections in new relationships. Standard hormone replacement therapy is not a method of contraception.

[**Calcif Tissue Int.**](http://www.ncbi.nlm.nih.gov/pubmed/24989776) **2014 Jul 3. [Epub ahead of print]**

**Mortality After Hip Fracture in Austria 2008-2011.**

[Brozek W](http://www.ncbi.nlm.nih.gov/pubmed?term=Brozek%20W%5BAuthor%5D&cauthor=true&cauthor_uid=24989776)1, [Reichardt B](http://www.ncbi.nlm.nih.gov/pubmed?term=Reichardt%20B%5BAuthor%5D&cauthor=true&cauthor_uid=24989776), [Kimberger O](http://www.ncbi.nlm.nih.gov/pubmed?term=Kimberger%20O%5BAuthor%5D&cauthor=true&cauthor_uid=24989776), [Zwerina J](http://www.ncbi.nlm.nih.gov/pubmed?term=Zwerina%20J%5BAuthor%5D&cauthor=true&cauthor_uid=24989776), [Dimai HP](http://www.ncbi.nlm.nih.gov/pubmed?term=Dimai%20HP%5BAuthor%5D&cauthor=true&cauthor_uid=24989776), [Kritsch D](http://www.ncbi.nlm.nih.gov/pubmed?term=Kritsch%20D%5BAuthor%5D&cauthor=true&cauthor_uid=24989776), [Klaushofer K](http://www.ncbi.nlm.nih.gov/pubmed?term=Klaushofer%20K%5BAuthor%5D&cauthor=true&cauthor_uid=24989776), [Zwettler E](http://www.ncbi.nlm.nih.gov/pubmed?term=Zwettler%20E%5BAuthor%5D&cauthor=true&cauthor_uid=24989776).

Osteoporosis-related hip fractures represent a substantial cause of mortality and morbidity in industrialized countries like Austria. Identification of groups at high risk for mortality after hip fracture is crucial for health policy decisions. To determine in-hospital, long-term, and excess mortality after osteoporosis-related hip fracture in Austrian patients, we conducted a retrospective cohort analysis of pseudonymized invoice data from Austrian social insurance authorities covering roughly 98 % of the entire population. The data set included 31,668 subjects aged 50 years and above sustaining a hip fracture between July 2008 and December 2010 with follow-up until June 2011, and an age-, gender-, and regionally matched control population without hip fractures (56,320 subjects). Kaplan-Meier and Cox hazard regression analyses served to determine unadjusted and adjusted mortality rates: Unadjusted all-cause 1-year mortality amounted to 20.2 % (95 % CI: 19.7-20.7 %). Males had significantly higher long-term, in-hospital, and excess mortality rates than females, but younger males exhibited lower excess mortality than their female counterparts. Advanced age correlated with increased long-term and in-hospital mortality, but lower excess mortality. Excess mortality, particularly in males, was highest in the first 6 months after hip fracture, but remained statistically significantly elevated throughout the observation period of 3 years. Longer hospital stay per fracture was correlated with mortality reduction in older patients and in patients with more subsequent fractures. In conclusion, more efforts are needed to identify causes and effectively prevent excess mortality especially in male osteoporosis patients.

[**Int J Pediatr Endocrinol.**](http://www.ncbi.nlm.nih.gov/pubmed/24982681) **2014;2014(1):12. doi: 10.1186/1687-9856-2014-12. Epub 2014 Jun 20.**

**A randomized trial of transdermal and oral estrogen therapy in adolescent girls with hypogonadism.**

[Shah S](http://www.ncbi.nlm.nih.gov/pubmed?term=Shah%20S%5BAuthor%5D&cauthor=true&cauthor_uid=24982681)1, [Forghani N](http://www.ncbi.nlm.nih.gov/pubmed?term=Forghani%20N%5BAuthor%5D&cauthor=true&cauthor_uid=24982681)2, [Durham E](http://www.ncbi.nlm.nih.gov/pubmed?term=Durham%20E%5BAuthor%5D&cauthor=true&cauthor_uid=24982681)1, [Neely EK](http://www.ncbi.nlm.nih.gov/pubmed?term=Neely%20EK%5BAuthor%5D&cauthor=true&cauthor_uid=24982681)1.

**BACKGROUND:** Adolescent females with ovarian failure require estrogen therapy for induction of puberty and other important physiologic effects. Currently, health care providers have varying practices without evidence-based standards, thus investigating potential differences between oral and transdermal preparations is essential. The purpose of this study was to compare the differential effects of treatment with oral conjugated equine estrogen (OCEE), oral 17β estradiol (OBE), or transdermal 17β estradiol (TBE) on biochemical profiles and feminization in girls with ovarian failure. **STUDY DESIGN:** 20 prepubertal adolescent females with ovarian failure, ages 12-18 years, were randomized to OCEE (n = 8), OBE (n = 7), or TBE (n = 5) for 24 months. Estrogen replacement was initiated at a low dose (0.15 mg OCEE, 0.25 mg OBE, or 0.0125 mg TBE) and doubled every 6 months to a maximum dose of 0.625 mg/d OCEE, 1 mg/d OBE, or 0.05 mg/d TBE. At 18 months, micronized progesterone was added to induce menstrual cycles. Biochemical markers including sex hormones, inflammatory markers, liver enzymes, coagulation factors, and lipids were obtained at baseline and 6 month intervals. Differences in levels of treatment parameters between the groups were evaluated with one-way analysis of variance (ANOVA). The effect of progesterone on biochemical markers was evaluated with the paired t-test. **RESULTS:** Mean (±SE) estradiol levels at maximum estrogen dose (18 months) were higher in the TBE group (53 ± 19 pg/mL) compared to OCEE (14 ± 5 pg/mL) and OBE (12 ± 5 pg/mL) (p ≤ 0.01). The TBE and OBE groups had more effective feminization (100% Tanner 3 breast stage at 18 months). There were no statistical differences in other biochemical markers between treatment groups at 18 months or after the introduction of progesterone. **CONCLUSIONS:** Treatment with transdermal 17β estradiol resulted in higher estradiol levels and more effective feminization compared to oral conjugated equine estrogen but did not result in an otherwise different biochemical profile in this limited number of heterogeneous patients. OBE and TBE provide safe and effective alternatives to OCEE to induce puberty in girls, but larger prospective randomized trials are required.

[**J Bone Miner Res.**](http://www.ncbi.nlm.nih.gov/pubmed/24986773) **2014 Jul 1. doi: 10.1002/jbmr.2303. [Epub ahead of print]**

**Pleiotropic Effects of Obesity on Fracture Risk: The Study of Women's Health Across the Nation.**

[Ishii S](http://www.ncbi.nlm.nih.gov/pubmed?term=Ishii%20S%5BAuthor%5D&cauthor=true&cauthor_uid=24986773)1, [Cauley JA](http://www.ncbi.nlm.nih.gov/pubmed?term=Cauley%20JA%5BAuthor%5D&cauthor=true&cauthor_uid=24986773), [Greendale GA](http://www.ncbi.nlm.nih.gov/pubmed?term=Greendale%20GA%5BAuthor%5D&cauthor=true&cauthor_uid=24986773), [Nielsen C](http://www.ncbi.nlm.nih.gov/pubmed?term=Nielsen%20C%5BAuthor%5D&cauthor=true&cauthor_uid=24986773), [Karvonen-Gutierrez C](http://www.ncbi.nlm.nih.gov/pubmed?term=Karvonen-Gutierrez%20C%5BAuthor%5D&cauthor=true&cauthor_uid=24986773), [Ruppert K](http://www.ncbi.nlm.nih.gov/pubmed?term=Ruppert%20K%5BAuthor%5D&cauthor=true&cauthor_uid=24986773), [Karlamangla AS](http://www.ncbi.nlm.nih.gov/pubmed?term=Karlamangla%20AS%5BAuthor%5D&cauthor=true&cauthor_uid=24986773).

Some aspects of an obese body habitus may protect against fracture risk (higher BMD and greater tissue padding), while others may augment that risk (greater impact forces during a fall). To examine these competing pathways, we analyzed data from a multisite, multiethnic cohort of 1924 women, premenopausal or early perimenopausal at baseline. Obesity was defined as baseline body mass index (BMI)> 30kg/m2. Composite indices of femoral neck strength relative to fall impact forces were constructed from DXA-derived bone size, bone mineral density (BMD) and body size. Incident fractures were ascertained annually during a median follow-up of 9 years. In multivariable linear regression adjusted for covariates, higher BMI was associated with higher BMD but with lower composite strength indices, suggesting that although BMD increases with greater skeletal loading, the increase is not sufficient to compensate for the increase in fall impact forces. During the follow-up, 201 women had fractures. In Cox proportional hazard analyses, obesity was associated with increased fracture hazard adjusted for BMD, consistent with greater fall impact forces in obese individuals. Adjusted for composite indices of femoral neck strength relative to fall impact forces, obesity was associated with decreased fracture hazard, consistent with a protective effect of soft tissue padding. Further adjustment for hip circumference, a surrogate marker of soft tissue padding, attenuated the obesity-fracture association. Our findings support that there are at least three major mechanisms by which obesity influences fracture risk: increased BMD in response to greater skeletal loading, increased impact forces, and greater absorption of impact forces by soft tissue padding.

[**Drug Dev Ind Pharm.**](http://www.ncbi.nlm.nih.gov/pubmed/24980912) **2014 Jul 1:1-4. [Epub ahead of print]**

**Transdermal absorption of natural progesterone from alcoholic gel formulations with hydrophilic surfactant.**

[Matsui R](http://www.ncbi.nlm.nih.gov/pubmed?term=Matsui%20R%5BAuthor%5D&cauthor=true&cauthor_uid=24980912)1, [Ueda O](http://www.ncbi.nlm.nih.gov/pubmed?term=Ueda%20O%5BAuthor%5D&cauthor=true&cauthor_uid=24980912), [Uchida S](http://www.ncbi.nlm.nih.gov/pubmed?term=Uchida%20S%5BAuthor%5D&cauthor=true&cauthor_uid=24980912), [Namiki N](http://www.ncbi.nlm.nih.gov/pubmed?term=Namiki%20N%5BAuthor%5D&cauthor=true&cauthor_uid=24980912).

Abstract Objectives: The aim of this study was to evaluate the in vitro skin permeation and in vivo transdermal absorption of natural progesterone (Prog) from alcoholic gel-based transdermal formulations containing Prog dissolved stably at a concentration of 3%. Methods: 3% Prog dissolved gel formulations were prepared containing with water, ethanol, 1,3-butylene glycol, carboxyvinylpolymer, diisopropanolamine, polyoxyethylene (2) oleylether and benzyl alcohol. The gel formulations added different hydrophilic surfactants and isopropyl myristate or propylene glycol dicaprylate (PGDC) as oily solvents were applied in vitro permeation study through excised rat skin on unocclusive condition. The gel formulations added polyoxyethylene (20) oleylether (Oleth-20) as hydrophilic surfactant and PGDC were applied in vivo single- and repeated-dose transdermal absorption study of rat on unocclusive condition. Results: The results of evaluation of the gel formulations by an in vitro skin permeation study revealed a high flux of Prog from the formulation containing Oleth-20 and Oleth-20 with PGDC. The results of single and repeated in vivo transdermal absorption studies confirmed that good plasma levels of Prog were achieved and maintained by Oleth-20 and PGDC containing gel formulation. Conclusions: The Oleth-20 and PGDC containing ethanolic gel formulation seemed to have the ability to maintain a high activity of Prog and high diffusivity or solubility of Prog in the epidermis on the practical formulation application.

[**Menopause.**](http://www.ncbi.nlm.nih.gov/pubmed/24977462) **2014 Jun 23. [Epub ahead of print]**

**Extended maternal age at birth of last child and women's longevity in the Long Life Family Study.**

[Sun F](http://www.ncbi.nlm.nih.gov/pubmed?term=Sun%20F%5BAuthor%5D&cauthor=true&cauthor_uid=24977462)1, [Sebastiani P](http://www.ncbi.nlm.nih.gov/pubmed?term=Sebastiani%20P%5BAuthor%5D&cauthor=true&cauthor_uid=24977462), [Schupf N](http://www.ncbi.nlm.nih.gov/pubmed?term=Schupf%20N%5BAuthor%5D&cauthor=true&cauthor_uid=24977462), [Bae H](http://www.ncbi.nlm.nih.gov/pubmed?term=Bae%20H%5BAuthor%5D&cauthor=true&cauthor_uid=24977462), [Andersen SL](http://www.ncbi.nlm.nih.gov/pubmed?term=Andersen%20SL%5BAuthor%5D&cauthor=true&cauthor_uid=24977462), [McIntosh A](http://www.ncbi.nlm.nih.gov/pubmed?term=McIntosh%20A%5BAuthor%5D&cauthor=true&cauthor_uid=24977462), [Abel H](http://www.ncbi.nlm.nih.gov/pubmed?term=Abel%20H%5BAuthor%5D&cauthor=true&cauthor_uid=24977462), [Elo IT](http://www.ncbi.nlm.nih.gov/pubmed?term=Elo%20IT%5BAuthor%5D&cauthor=true&cauthor_uid=24977462), [Perls TT](http://www.ncbi.nlm.nih.gov/pubmed?term=Perls%20TT%5BAuthor%5D&cauthor=true&cauthor_uid=24977462).

**OBJECTIVE:** This study investigated the association between maternal age at birth of last child and likelihood of survival to advanced age. **METHODS:** This was a nested case-control study using Long Life Family Study data. Three hundred eleven women who survived past the oldest 5th percentile of survival (according to birth cohort-matched life tables) were identified as cases, and 151 women who died at ages younger than the top 5th percentile of survival were identified as controls. A Bayesian mixed-effect logistic regression model was used to estimate the association between maternal age at birth of last child and exceptional longevity among these 462 women. **RESULTS:** We found a significant association for older maternal age, whereby women who had their last child beyond age 33 years had twice the odds for survival to the top 5th percentile of survival for their birth cohorts compared with women who had their last child by age 29 years (age between 33 and 37 y: odds ratio, 2.08; 95% CI, 1.13 to 3.92; older age: odds ratio, 1.92; 95% CI, 1.03 to 3.68). **CONCLUSIONS:** This study supports findings from other studies demonstrating a positive association between older maternal age and greater odds for surviving to an unusually old age.

[**Menopause.**](http://www.ncbi.nlm.nih.gov/pubmed/24977458) **2014 Jun 23. [Epub ahead of print]**

**Low-dose transdermal estradiol for vasomotor symptoms: a systematic review.**

[Corbelli J](http://www.ncbi.nlm.nih.gov/pubmed?term=Corbelli%20J%5BAuthor%5D&cauthor=true&cauthor_uid=24977458)1, [Shaikh N](http://www.ncbi.nlm.nih.gov/pubmed?term=Shaikh%20N%5BAuthor%5D&cauthor=true&cauthor_uid=24977458), [Wessel C](http://www.ncbi.nlm.nih.gov/pubmed?term=Wessel%20C%5BAuthor%5D&cauthor=true&cauthor_uid=24977458), [Hess R](http://www.ncbi.nlm.nih.gov/pubmed?term=Hess%20R%5BAuthor%5D&cauthor=true&cauthor_uid=24977458).

**OBJECTIVE:** This review aims to determine the effectiveness of low-dose transdermal estrogen versus placebo in postmenopausal women with moderate to severe hot flashes. **METHODS:** We conducted a systematic review of studies by searching Medline and EMBASE using the following inclusion criteria: double-blind, placebo-controlled, randomized controlled trials conducted in postmenopausal women with at least 7 hot flashes per day and/or at least 50 hot flashes per week. All included studies used estrogen formulations below the equivalent dose of 0.05 mg of 17β-estradiol. **RESULTS:** Nine studies met all inclusion criteria. Seven of nine studies had low risk of bias, whereas two studies had high risk of bias. Low-dose transdermal estrogen in all dose ranges was more likely than placebo to decrease the daily number of hot flashes. Meta-analysis was not performed as only three of the nine studies included measures of variance; weighted means were used to summarize the data. Results were divided into three groups by decreasing estrogen dose range (0.037-0.045, 0.020-0.029, and 0.003-0.125 mg). The mean daily decrease in the number of hot flashes from baseline was 9.36, 7.91, and 7.07, respectively. The mean daily decrease in the placebo groups was 5.07. Eight of the nine studies reported P values comparing each estrogen dose to placebo; all were significant at P < 0.05. **CONCLUSIONS:** Although publication bias cannot be excluded, risk of bias and heterogeneity among studies are low. There is strong evidence to conclude that low-dose transdermal estrogen at any dose is more effective than placebo in decreasing the daily number of moderate to severe hot flashes.