



# Menopause

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**New therapies for leiomyomas: when surgery may not be the best option**

### Original Articles

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**Age at natural menopause and physical functioning in postmenopausal women:  
the Canadian Longitudinal Study on Aging**

Maria P. Velez, MD, PhD, Beatriz E. Alvarado, MD, PhD, Nicole Rosendaal, MSc,  
Saionara M. da Câmara, PhD, Emmanuelle Belanger, PhD, Harriet Richardson, PhD,  
and Catherine M. Pirkle, PhD

*Premature menopause (< 40 years) may be associated with lower gait speed  
(slowness) among Canadian women. No association was observed between age at  
natural menopause and grip strength (weakness).*

*(continued)*

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**Determination of estradiol and progesterone content in capsules and creams from compounding pharmacies**

Frank Z. Stanczyk, PhD, Chunying Niu, BS, Colleen Azen, MS, Sebastian Mirkin, MD, and Julia M. Amadio, MBA

*Measured hormone levels of combined estradiol/progesterone oral capsules and transdermal creams filled at compounding pharmacies vary differently for capsules versus creams and between pharmacies. Variability in hormone levels should concern women and health care providers who use these compounded hormone therapies for menopausal relief.*

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972

**Cognitive behavior therapy for menopausal symptoms (CBT-Meno): a randomized controlled trial**

Sheryl M. Green, PhD, Eleanor Donegan, PhD, Benicio N. Frey, MD, PhD, Donna M. Fedorkow, MD, Brenda L. Key, PhD, David L. Streiner, PhD, and Randi E. McCabe, PhD

*The goal of this randomized controlled trial was to evaluate the effectiveness of the cognitive behavioral therapy for menopausal symptoms (CBT-Meno) protocol, which was designed to target a range of commonly-reported symptoms among women during the menopausal transition. When compared to a waitlist condition, CBT-Meno was associated with significantly greater reductions in vasomotor symptom severity (interference, bothersome), depressive symptoms, sleep difficulties, and sexual concerns.*

981

**Focus group reactions to an arts-based educational exhibit on menopausal hot flashes**

Janet S. Carpenter, PhD, RN, FAAN, Karen K. Schmidt, MSN, RN, Lynsey M. Jarvis, BA, Jennifer L. Lapum, PhD, RN, and Mark D. Kesling, BS, MS

*Public reactions to an arts-based educational exhibit designed to immerse and engage people in scientific facts to increase their conceptual understanding of hot flashes were assessed. Focus groups described that the exhibit stimulated learning, dispelled myths, spurred dialogue, and increased empathy.*

989

**Public survey reactions to an arts-based educational menopausal hot flash exhibit**

Janet S. Carpenter, PhD, RN, FAAN, Kevin L. Rand, PhD, Karen K. Schmidt, MSN, RN, Jennifer L. Lapum, PhD, RN, and Mark D. Kesling, BS, MS

*Survey feedback from people who viewed an arts-based educational exhibit on menopausal hot flashes indicated high satisfaction, moderate readiness for action, and other positive gains. Participants reported being moderately motivated to get more information, ready to start a conversation, and likely to make changes and also indicated they were leaving the exhibit with more information, awareness, empathy, validation, empowerment, positive feelings, and questions.*

OPEN

994

**Effects of ospemifene on genitourinary health assessed by prospective vulvar-vestibular photography and vaginal/vulvar health indices**

Irwin Goldstein, MD, James A. Simon, MD, Andrew M. Kaunitz, MD, Corrado Altomare, MD, Yuki Yoshida, MS, Julie Zhu, MD, Sam Schaffer, MD, and Graziella Sulban, PhD

*In a phase 3, multicenter, randomized trial evaluating postmenopausal vaginal dryness, daily ospemifene 60 mg versus placebo improved vulvovaginal health, as assessed by prospective vulvar-vestibular photography and other direct visual assessments. These improvements are consistent with its documented efficacy for the treatment of moderate to severe dyspareunia and reported vaginal dryness.*

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**1002**

**Menopausal hot flashing and endothelial function in two vascular beds: findings from a cross-sectional study of postmenopausal women**

Stamatina Iliodromiti, PhD, MD, MRCOG, Naveed Sattar, PhD, Christian Delles, PhD, Scott M. Nelson, PhD, Jason M.R. Gill, PhD, and MaryAnn Lumsden, MD

*Menopausal hot flashing seems to be associated with greater insulin resistance and lower macro-vascular response. The paradoxical enhanced micro-vascular response in hot flashers could be the result of the net effect of thermoregulatory and non-nitric oxide related pathways rather than of endothelial integrity.*

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**1010**

**Multiple pregnancies and the risk of diabetes mellitus in postmenopausal women**

Chengjie Lv, MD, Chi Chen, MD, Qi Chen, MD, Hualing Zhai, MD, PhD, Li Zhao, MD, PhD, Yuyu Guo, MD, and Ningjian Wang, MD, PhD

*Prior studies on the association between pregnancy and risk of diabetes in women have reported discordant results. In 9,138 postmenopausal women without a history of gestational diabetes, this study found multiple pregnancies ( $\geq 4$ ) through child-bearing age may be a potential risk factor for diabetes.*

**1016**

**Is core temperature the trigger of a menopausal hot flush?**

Helen Jones, PhD, Tom G. Bailey, PhD, David A. Barr, PhD, Madeleine France, MPhil, Rebekah A.I. Lucas, PhD, Craig G. Crandall, PhD, and David A. Low, PhD

*This study provides new evidence that menopausal hot flushes are unlikely triggered by an increase in core temperature. These findings provide important information about the physiology of hot flushes that have implications for treatment and management options for menopausal hot flushes.*

**1024**

**High risk for cardiovascular disease in postmenopausal breast cancer survivors**

Daniel de Araujo Brito Buttros, MD, PhD, Mauro Terra Branco, MD, Claudio Lera Orsatti, PhD, Benedito de Sousa Almeida-Filho, MD, Jorge Nahas-Neto, MD, PhD, and Eliana A.P. Nahas, MD, PhD

*Postmenopausal breast cancer survivors had a stronger association with risk factors for cardiovascular disease than postmenopausal women without breast cancer.*

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**1031**

**Change over time in patient-reported symptoms and quality of life in Edmonton interdisciplinary menopause clinics: preliminary cohort study of clinic patients and waitlist patients**

Beate C. Sydora, PhD, Nese Yuksel, BScPharm, PharmD, Vikas Chadha, BA, Lori Battocchio, RN, Lori Reich-Smith, RN, Shelly Hagen, RD, Maryna Yaskina, PhD, Tami Shandro, MD, and Sue J. Ross, PhD

*Women attending specialized menopause clinics experienced improvement in symptoms and quality of life, while women on the waitlists did not experience these changes.*

1038

**Prevalence of sarcopenia and associated factors in climacteric women of the Colombian Caribbean**

Alvaro Monterrosa-Castro, MD, MSc, Mauricio Ortiz-Banquéz, MD, and María Mercado-Lara, MD  
*Sarcopenia was present in this mid-aged female Colombian Caribbean sample and associated with various factors such as ethnicity, age and menopausal symptoms and status.*

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**Objective measures of physical performance associated with depression and/or anxiety in midlife Singaporean women**

Shamini Ganasarajah, MSc, Inger Sundström Poromaa, MD, PhD, Win Pa Pa Thu, MBBS, Michael S. Kramer, MD, FRSC, FCAHS, Susan Logan, MD, FRCOG, MFSRH, Jane A. Cauley, DrPH, and Eu-Leong Yong, FRCOG, PhD  
*Around 15% of midlife women in Singapore reported depressive and/or anxiety symptoms. Objectively measured physical performance measures were independently associated with depression and/or anxiety symptoms in our sample of midlife Singaporean women.*

1052

**The effect of vaginal erbium laser treatment on sexual function and vaginal health in women with a history of breast cancer and symptoms of the genitourinary syndrome of menopause: a prospective study**

Fernanda Arêas, MD, MSc, Ana L.R. Valadares, MD, PhD, Délio Marques Conde, MD, PhD, and Lúcia Costa-Paiva, MD, PhD

*The results of this study suggest that vaginal erbium laser therapy has a beneficial effect on vaginal health and improves sexual function in patients with a history of breast cancer.*

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**Clinical Corner**

**NAMS Practice Pearl**

1059

**Salpingectomy to reduce risk of ovarian cancer in women at average risk**

Jaime Arruda, MD

*Ovarian cancer is a common gynecologic malignancy with a poor prognosis and a lack of screening for women at average risk. Focus has shifted toward strategies for risk-reducing surgery to prevent its development. This Practice Pearl describes the evidence supporting opportunistic salpingectomy at the time of hysterectomy or tubal sterilization as a strategy to reduce the risk of ovarian cancer; the risks and benefits associated with the procedure, and the methods used.*

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**Brief Report**

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**An arts-based educational exhibit on menopausal hot flashes**

Janet S. Carpenter, PhD, RN, FAAN, Mark Kesling, BS, MS, and Karen K. Schmidt, MSN, RN

*This paper describes the development process, science, and symbolism of an arts-based educational exhibit on hot flashes. This is a resource for women as well as providers and family members to address the preponderance of myths, misinformation, and negative imagery surrounding menopausal hot flashes and decrease use of unproven therapies.*

## Case Report

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### **Conservative management of endometrial intraepithelial neoplasia in a patient with cirrhosis undergoing orthotopic liver transplant**

Jessica Morgan, MD, and Erica K. Hinz, MD, MPH

*This case report highlights conservative management of post-menopausal bleeding and endometrial hyperplasia in a woman with severe liver disease undergoing liver transplant. While the number of women with both cirrhosis and endometrial hyperplasia may be small, it is important to highlight the conservative management options for this patient population.*

## Review Article

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OPEN

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### **The Kronos Early Estrogen Prevention Study (KEEPS): what have we learned?**

Virginia M. Miller, PhD, Fredrick Naftolin, MD, PhD, Sanjay Asthana, MD, Dennis M. Black, PhD, Eliot A. Brinton, MD, Matthew J. Budoff, MD, Marcelle I. Cedars, MD, N. Maritza Dowling, PhD, Carey E. Gleason, PhD, Howard N. Hodis, MD, Muthuvel Jayachandran, PhD, Kejal Kantarci, MD, Rogerio A. Lobo, MD, JoAnn E. Manson, MD, DrPH, Lubna Pal, MBBS, MS, Nanette F. Santoro, MD, Hugh S. Taylor, MD, and S. Mitchell Harman, MD, PhD

*Kronos Early Estrogen Prevention Study (KEEPS) and its ancillary studies have supported the value and safety of the use of hormone therapy (HT) in recently menopausal women and provides a perspective for future research to optimize HT and health of menopausal women. The KEEPS continuation study continues to pursue these issues.*

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