



# Menopause

The Journal of The North American Menopause Society

VOLUME 16, ISSUE 6, 2009

## CONTENTS

---

### Editorials

---

**1075**

**Cynthia A. Stuenkel, MD, NCMP, 2009-2010 NAMS President**

**1077**

**Vitamin D: the other steroid hormone for muscle function and strength**

Michael F. Holick, MD, PhD

**1079**

**Altering the propensity for density: the benefits and risks of selective estrogen receptor modulators**

Victor G. Vogel, MD, MHS

**1083**

**A tissue selective estrogen complex: a new horizon for menopausal symptoms**

Michelle P. Warren, MD

**1085**

**Breast density, hormones, and screening mammography: should women be less concerned?**

Raja A. Sayegh, MD and Priscilla J. Slanetz, MD, MPH

**1087**

**Age cohorts in historical context**

Lynnette Leidy Sievert, PhD

**1089**

**Sexual function in middle-aged Latin American women as determined by the Female Sexual Function Index: improving global acceptance of the use of validated measures of sexual function**

Sheryl A. Kingsberg, PhD

**1092**

**Screening the postmenopausal ovary**

Lila E. Nachtigall, MD

*(continued)*

---

*Menopause: The Journal of The North American Menopause Society* (ISSN 1072-3714) is published bimonthly for The North American Menopause Society by Lippincott Williams & Wilkins, 16522 Hunters Green Parkway, Hagerstown, MD 21740-2116. Business and production offices are located at 530 Walnut Street, Philadelphia, PA 19107-3621. All rights reserved. Printed on acid-free paper. Periodical postage paid at Hagerstown, Maryland, and at additional mailing offices. Copyright © 2009 by The North American Menopause Society.

**POSTMASTER:** Send address changes to *Menopause: The Journal of The North American Menopause Society*, P.O. Box 1550, Hagerstown, MD 21740.

---

**Articles**

---

**1093****Serum 25-hydroxyvitamin D is related to indicators of overall physical fitness in healthy postmenopausal women**

Jeanne W. Stewart, MS, D. Lee Alekel, PhD, Laura M. Ritland, MS, Marta Van Loan, PhD, Erik Gertz, MS, and Ulrike Genschel, PhD

*The purpose of this cross-sectional analysis was to examine the relationship between serum 25(OH)vitamin D, taking into account a variety of key factors and indicators of physical fitness in healthy postmenopausal women. Serum 25(OH)vitamin D was the common contributor to physical fitness indices (androidal fat mass, lean body mass, balance, hand grip strength) in healthy postmenopausal women.***1102****Bazedoxifene effects on the reproductive tract in postmenopausal women at risk for osteoporosis**

JoAnn V. Pinkerton, MD, David F. Archer, MD, Wulf H. Utian, MD, PhD, DSc(Med), José C. Menegoci, MD, PhD, Amy B. Levine, MD, Arkadi A. Chines, MD, and Ginger D. Constantine, MD

*Treatment with bazedoxifene for 2 years was associated with a favorable endometrial, ovarian, and breast safety profile in healthy, recently postmenopausal women at risk for osteoporosis.***1109****Bazedoxifene, a selective estrogen receptor modulator: effects on the endometrium, ovaries, and breast from a randomized controlled trial in osteoporotic postmenopausal women**

David F. Archer, MD, JoAnn V. Pinkerton, MD, Wulf H. Utian, MD, PhD, DSc(Med), José C. Menegoci, MD, PhD, Tobie J. de Villiers, MD, Chui Kin Yuen, MD, Amy B. Levine, MD, Arkadi A. Chines, MD, and Ginger D. Constantine, MD

*Treatment with bazedoxifene for 3 years was associated with a favorable endometrial, ovarian, and breast safety profile in postmenopausal women with osteoporosis.***1116****Relief of vasomotor symptoms with the tissue-selective estrogen complex containing bazedoxifene/conjugated estrogens: a randomized, controlled trial**

JoAnn V. Pinkerton, MD, Wulf H. Utian, MD, PhD, DSc(Med), Ginger D. Constantine, MD, Sophie Olivier, MD, and James H. Pickar, MD

*Postmenopausal women aged 40 to 65 years with 7 or more moderate to severe hot flashes per day or 50 per week enrolled in a 12-week placebo controlled, double-blind hot flash efficacy trial. Bazedoxifene 20 mg paired with conjugated estrogens 0.45 or 0.625 mg was found to be effective and safe in this trial for treating vasomotor symptoms.*

1125

**Short-term (1-2 mo) hormone therapy cessation before mammography**

Susan D. Reed, MD, MS, MPH, Diana S.M. Buist, PhD, MPH,  
Melissa L. Anderson, MS, Erin J. Aiello Bowles, MPH, Dawn Fitzgibbons, MPH,  
Deborah Seger, BS, and Katherine M. Newton, PhD

*In a randomized controlled trial of hormone therapy cessation 1 to 2 months before screening mammogram, nonparticipants were compared with participants. Nonparticipants were older, were less educated, and had lower body mass index; among estrogen and progestin therapy users, participants were more likely to have a first-degree relative with breast cancer.*

1132

**Life satisfaction, distress, and resiliency across the life span of women**

Manfred E. Beutel, MD, Heide Glaesmer, PhD, Oliver Decker, PhD,  
Sabine Fischbeck, PhD, and Elmar Brähler, PhD

*Personal and social resources and the absence of anxiety and depression are of crucial importance for the maintenance of life satisfaction in aging women.*

1139

**Sexual dysfunction in middle-aged women: a multicenter Latin American study using the Female Sexual Function Index**

Juan E. Blümel, MD, PhD, Peter Chedraui, MD, MSc, German Baron, MD,  
Emma Belzares, MD, Ascanio Bencosme, MD, Andres Calle, MD, MSc,  
Maria T. Espinoza, MD, Daniel Flores, MD, Humberto Izaguirre, MD, MSc,  
Patricia Leon-Leon, MD, Selva Lima, MD, Edward Mezones-Holguin, MD, MSc,  
Alvaro Monterrosa, MD, Desire Mostajo, MD, MSc, Daysi Navarro, MD, PhD,  
Eliana Ojeda, MD, MSc, William Onatra, MD, MSc, Monique Royer, MD, PhD,  
Edwin Soto, MD, MSc, Soledad Vallejo, MD, Konstantinos Tserotas, MD,  
for the Collaborative Group for Research of the Climacteric in Latin  
America (REDLINC)

*This cross-sectional study analyzing data from 7,243 middle-aged Latin American women determined that the prevalence of sexual dysfunction was high and that decreased vaginal lubrication was the most important associated risk factor.*

1149

**Ovarian status in healthy postmenopausal women: follow-up 12 months after transvaginal ultrasound**

Robin J. Bell, MB, BS, PhD, FAFPHM, David L. Healy, MB, BS, PhD, FRANZCOG,  
David M. Robertson, PhD, Tom Jobling, MB, BS, FRANZCOG,  
Martin K. Oehler, MB, BS, FRANZCOG, Andrew Edwards, MB, BS, FRANZCOG,  
Paul Shekleton, MB, BS, FRANZCOG, Jacqueline Oldham, MB, BS, FRANZCOG,  
Sofie Piessens, MB, BS, FRANZCOG, Mark Teoh, MB, BS, FRANZCOG,  
Pamela Marners, RN, Nancy Taylor, RN, and Frances Walker, RN

*The ovaries can be visualized with transvaginal ultrasound in most women at least 5 years past menopause. However, transvaginal ultrasound also has the capacity to detect a range of benign abnormalities in the ovaries of these women, which may have otherwise remained undetected.*

**1156**

**Safety and efficacy of black cohosh and red clover for the management of vasomotor symptoms: a randomized controlled trial**

Stacie E. Geller, PhD, Lee P. Shulman, MD, Richard B. van Breemen, PhD, Suzanne Banuvar, MHSA, Ying Zhou, MS, Geena Epstein, RN, Samad Hedayat, PhD, Dejan Nikolic, PhD, Elizabeth C. Krause, PharmD, Colleen E. Piersen, PhD, Judy L. Bolton, PhD, Guido F. Pauli, PhD, and Norman R. Farnsworth, PhD

*Both black cohosh and red clover are widely used as over-the-counter botanical treatments for menopausal symptoms. In this phase II clinical trial, black cohosh and red clover did not significantly reduce the frequency of vasomotor symptoms as compared with placebo.*

**1167**

**Effects of botanicals and combined hormone therapy on cognition in postmenopausal women**

Pauline M. Maki, PhD, Leah H. Rubin, MA, Deanne Fornelli, BS, Lauren Drogos, BS, Suzanne Banuvar, MHSA, Lee P. Shulman, MD, and Stacie E. Geller, PhD

*The goal of this phase II clinical trial was to evaluate the effects of red clover, black cohosh, and combined hormone therapy on cognitive function and objective hot flashes in comparison with placebo in women with moderate to severe vasomotor symptoms. Results indicate that neither botanical supplement had an effect on cognitive function and that combined hormone therapy reduces objective hot flashes but worsens some aspects of verbal memory.*

**1178**

**Progesterone and ovulation across stages of the transition to menopause**

Kathleen A. O'Connor, PhD, Rebecca Ferrell, PhD, Eleanor Brindle, MS, Benjamin Trumble, BA, Jane Shofer, MS, Darryl J. Holman, PhD, and Maxine Weinstein, PhD

*Detailed characterization of progesterone and ovulation across the transition to menopause provides insight into conception risk and mechanisms of reproductive aging. By the late perimenopause, peak and total pregnanediol glucuronide as well as ovulation frequency had significantly declined, although at least 25% of cycles longer than 60 days were ovulatory.*

**1188**

**Body mass index, urinary incontinence, and female sexual dysfunction: how they affect female postmenopausal health**

Gianna Pace, MD, Vanuska Silvestri, MD, Luana Gualá, MD, and Carlo Vicentini, MD, FP

*An increased body mass index in the perimenopause represents a risk both for urinary incontinence and for sexual dysfunction. Weight control has an essential role to safeguard female quality of life as regards urinary incontinence and female sexual dysfunction symptom onset and should be considered early in perimenopause.*

1193

**The effects of bazedoxifene on mammographic breast density in postmenopausal women with osteoporosis**Jennifer A. Harvey, MD, Mary K. Holm, MD, Radhika Ranganath, MD,  
Paul A. Guse, PhD, Edward A. Trott, MD, and Eileen Helzner, MD*Treatment with bazedoxifene for 2 years did not affect age-related changes in breast density in this population of postmenopausal women with osteoporosis. The changes in breast density with bazedoxifene 20 or 40 mg were similar to those with raloxifene 60 mg or placebo.*

1197

**Past and current weight change and forearm bone loss in middle-aged women: the Nord-Trøndelag Health Study, Norway**Siri Forsmo, MD, PhD, MPH, Arnulf Langhammer, MD, PhD,  
and Berit Schei, MD, PhD*In a population-based cohort of women ages 45 to 60 years followed for 15.5 years, weight change was measured before and concurrently to the assessment of forearm bone loss. A long-lasting negative effect of prior weight loss and a positive effect of weight gain on bone were observed, independently of concomitant weight change.*

1205

**Menopausal symptoms among breast cancer patients 6 months after diagnosis: a report from the Shanghai Breast Cancer Survival Study**Tsogzolmaa Dorjgochoo, MD, PhD, Kai Gu, MD, Asha Kallianpur, MD, MPH,  
Ying Zheng, MD, MS, Wei Zheng, MD, PhD, Zhi Chen, MD, PhD,  
Wei Lu, MD, MPH, and Xiao Ou Shu, MD, PhD*The likelihood of menopausal symptoms varied by age and menopause status at diagnosis and was highest among perimenopausal women and recently postmenopausal women. Chemotherapy, tamoxifen use, and immunotherapy were associated with increased prevalence of menopausal symptoms, and the association may be modified by menopause status and overall quality of life.*

1213

**Vasomotor symptoms usually reappear after cessation of postmenopausal hormone therapy: a Swedish population-based study**Lotta Lindh-Åstrand, RN, Jan Brynhildsen, MD, PhD, Mikael Hoffman, MD, PhD,  
and Mats Hammar, MD, PhD*This population-based study performed in 53- to 54-year-old Swedish women showed that most women who had vasomotor symptoms when they initiated hormone therapy also reported recurrence of hot flashes after cessation of treatment. The symptoms were, however, reported to be less frequent and bothersome than before hormone therapy was initiated.*

1218

**Factors that influence entry into stages of the menopausal transition**Mary D. Sammel, ScD, Ellen W. Freeman, PhD, Ziyue Liu, MS, Hui Lin, MS,  
and Wensheng Guo, PhD*This study estimates the probabilities and identifies the risk factors for entry into each stage of the menopausal transition. Increased follicle-stimulating hormone levels, decreased inhibin B levels, and current smoking were the strongest predictors of entry into the earliest transition stage and all subsequent stages of the transition as defined by changes in bleeding patterns.*

## CONTENTS

(continued)

---

### Letters to the Editor

1228

---

### Acknowledgement of Reviewers

1230

---

### Abstracts

1231

**20th Annual Meeting of The North American Menopause Society  
September 30–October 3, 2009, San Diego, CA**

1267

**Abstract Author Index**

1270

**Author Index**

1274

**Subject Index**

---

Lippincott Williams & Wilkins and The North American Menopause Society cannot be held responsible for errors or for any consequences arising from the use of the information contained in this journal. All advertising material published in this journal is expected to conform to regulatory and medical standards. The appearance of advertising in this publication does not constitute a guarantee or endorsement by The North American Menopause Society or Lippincott Williams & Wilkins of the quality or value of such a product or service or any claims made by its marketer.

PERMISSION TO PHOTOCOPY ARTICLES: This publication is protected by copyright. Permission to reproduce copies of articles for noncommercial use may be obtained from the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923, Tel: (978) 750-8400, FAX: (978) 750-4470, URL: <http://www.copyright.com>

*Menopause: The Journal of The North American Menopause Society* is a registered trademark of The North American Menopause Society.

**Menopause: The Journal of The North American Menopause Society** (ISSN 1072-3714) is published bimonthly by Lippincott Williams & Wilkins, 16522 Hunters Green Parkway, Hagerstown, MD 21740-2116. Business offices are located at 530 Walnut Street, Philadelphia, PA 19106-3621. Periodical postage paid at Hagerstown, MD, and at additional mailing offices. **Annual subscription rates:** *United States*—\$322 Individual, \$582 Institution. *Rest of World*—\$362 Individual, \$647 Institution. Single copy rate \$107. All prices include a handling charge. Subscriptions outside of North America must add \$11 for airfreight delivery. United States residents of AL, CO, DC, FL, GA, HI, IA, ID, IN, KS, KY, LA, MD, MO, ND, NM, NV, PR, RI, SC, SD, UT, VT, WA, WV add state sales tax. The GST tax of 7% must be added to all orders shipped to Canada (Lippincott Williams & Wilkins' GST Identification #895524239, Publications Mail Agreement #1119672). Subscription prices outside the United States must be prepaid. Prices subject to change without notice. Visit us online at [www.lww.com](http://www.lww.com). Individual subscription rates include print and access to the online version. Institutional rates are for print only; online subscriptions are available via Ovid. Institutions can choose to purchase a print and online subscription together for a discounted rate. Institutions that wish to purchase a print subscription, please contact Lippincott Williams & Wilkins, 16522 Hunters Green Parkway, Hagerstown, MD 21740-2116; phone 800-638-3030 (outside the United States 301-223-2300); fax 301-223-2400. Institutions that wish to purchase an online subscription or online with print, please contact the Ovid Regional Sales Office near you or visit [www.ovid.com/site/index.jsp](http://www.ovid.com/site/index.jsp) and select Contact and Locations. **Address for subscription information, orders, or change of address:** Lippincott Williams & Wilkins, P.O. Box 1580, Hagerstown, MD 21741-1580; phone 800-638-3030 (outside the United States 301-223-2300); fax 301-223-2400. In Japan, contact LWV Igaku-Shoin Ltd., 3-23-14 Hongo, Bunkyo-ku, Tokyo 113-0033; phone 81-3-5689-5400; fax 81-3-5689-5402. In Bangladesh, India, Nepal, Sri Lanka, and Pakistan, contact Globe Publications Pvt. B-13 3rd Floor, A Block, Shopping Complex, Naraina Vihar, Ring Road, New Delhi, 110028; phone 91-11-579-3211; fax 91-11-579-8876. Address advertising inquiries to Rene Artuso at Lippincott Williams & Wilkins, 530 Walnut Street, Philadelphia, PA 19106 USA

**Postmaster:** Send address changes to *Menopause: The Journal of The North American Menopause Society*, P.O. Box 1550, Hagerstown, MD 21740.

Copyright © 2009 by The North American Menopause Society. All rights reserved. Printed in the USA.