

Alternative Medicine, Chinese Medicine

Internet resources:

ConsumerLab.com

<http://www.consumerlab.com>

The Longwood Herbal Task Force

<http://www.mcp.edu/herbal>

Natural Medicines Comprehensive Database

<http://www.naturaldatabase.com>

University of Washington School of Medicine, Department of Family Medicine, on Complementary and Alternative Medicine

<http://www.fammed.washington.edu/predoctoral/CAM>

From Symposium:

Phillippe Sionneau's commentary on the 2 modern Chinese menopause formulas presented in afternoon.

<http://www.pulsemed.org/menopauseherbformulas.htm>

A few older articles I wrote...

<http://www.pulsemed.org/menopauseresource.htm>

<http://www.pulsemed.org/hrtalternatives.htm>

<http://www.pulsemed.org/hrtalternatives2.htm>

- ?? Kronenberg F, Fugh-Berman A. Complementary and alternative medicine for menopausal symptoms: a review of randomized, controlled trials. *Ann Intern Med.* 2002 Nov 19;137(10):805-13. Review.
- ?? McKenna DJ, Jones K, Humphrey S, Hughes K. Black cohosh: efficacy, safety, and use in clinical and preclinical applications. *Altern Ther Health Med.* 2001 May-Jun;7(3):93-100. Review.

"premenopausal women (women who were having regular periods) were just as likely to use the four study herbs as were the perimenopausal and postmenopausal women. A similar pattern for premenopausal women to report menopause-related symptoms has been reported by others, and, therefore, the premenopausal women may have taken the herbal products for symptom relief"

"Perimenopausal women in our study who reported daily multivitamin use had 56% higher odds of reporting hot flashes compared to women who did not take a multivitamin. This observation was of borderline statistical significance. One possible explanation for the tenuous association between multivitamin use and hot flashes may be that symptomatic women used vitamins to try and treat their hot flashes. Supplements, such as vitamin E, are recommended in the literature as adjunctive therapy for hot flashes. However, one randomized, controlled trial in women with breast cancer found vitamin E to be only slightly better than placebo in reducing hot flashes. No studies to date have shown any increased risk for hot flashes with multivitamin use."

"...perimenopausal women who consumed 1 to 5 alcohol-containing drinks per week reported hot flashes less often than women who drank no alcohol."

"...did not find a statistically significant association between exercise and hot flashes"

"Dietary fat did not influence hot flashes in the perimenopausal women..."

"In our analysis, perimenopausal women with a BMI of ≥ 25 kg/m² were more likely to report hot flashes than women with a BMI of < 25 kg/m². Body mass index was not associated with hot flashes in postmenopausal women..." (multiple studies confirm this w/ peri women)

"Hypothalamic regulation of core body temperature may play a role in hot flash physiology and has been shown to be related to menopausal status."

- ?? Dailey RK, Neale AV, et al. Herbal Product Use and Menopause Symptom Relief in Primary Care Patients: A MetroNet Study. *J Womens Health* 12(7):633-641, 2003
- ?? Israel D, Youngkin EQ. Herbal therapies for perimenopausal and menopausal complaints. *Pharmacotherapy*. 1997;17(5):970-84.
- ?? Shaver JL. Beyond hormonal therapies in menopause. *Exp Gerontol*. 1994;29:469-76.
- ?? Lissin LW, Cooke JP. Phytoestrogens and cardiovascular health. *J Am Coll Cardiol*. 2000;35(6):1403-10.
- ?? Albertazzi P, Pansini F, Bonaccorsi G, et al. The effect of dietary soy supplementation on hot flashes. *Obstet Gynecol*. 1998;91(1):6-11.
- ?? Ramsey LA, Ross BS, Fischer RG. Phytoestrogens and the management of menopause. *Adv Nurse Pract*. 1999;7(5):26-30.
- ?? Hardy ML. Herbs of special interest to women. *J Amer Pharm Assoc*. 2000; 40:234-42.
- ?? Petho A. Climacteric complaints are often helped with black cohosh. *Arztliche Praxis*. 1987;47:1551-3.
- ?? Umland EM, Cauffield JS, Kirk JK, Thomason TE. Phytoestrogens as therapeutic alternatives to traditional hormone replacement in postmenopausal women. *Pharmacotherapy*. 2000;20:981-90.

Insomnia & Meno Trans

"insomnia is estimated to affect 30% to 60% of perimenopausal and postmenopausal women"

- ?? Krystal AD, Edinger J, Wohlgemuth W, Marsh GR. Sleep in peri-menopausal and post-menopausal women. *Sleep Med Rev*. 1998;2:243-253.

"Aging-related sleep deficits in response to an experimental stressor occur in midlife women prior to menopause."

- ?? Lukacs JL, Chilimigras JL, et al. Midlife Women's Responses to a Hospital Sleep Challenge: Aging and Menopause Effects on Sleep Architecture. *Jrn Women's Health*, 2004:13.
- ?? Von Muhlen DG, Kritz-Silverstein D, Barrett-Connor E. A community-based study of menopause symptoms and estrogen replacement in older women. *Maturitas*. 1995;22:71-78

"that are prevalent in women (eg, depression and/or anxiety; hyperthyroidism) and in aging people (eg, restless legs syndrome, sleep apnea)"

- ?? Ancoli-Israel S, Kripke DF, Mason W, Messin S. Sleep apnea and nocturnal myoclonus in a senior population. *Sleep*. 1981;4:349-358. [Abstract](#)
- ?? Fry JM. Sleep disorders. *Med Clin North Am*. 1987;71:95-110. [Abstract](#)
- ?? Holbrook AM, Crowther R, Lotter A, Cheng C, King D. The diagnosis and management of insomnia in clinical practice: a practical evidence-based approach. *CMAJ*. 2000;162:216-220. [Abstract](#)

Depression & Meno Trans

"Women were three times as likely to have an episode of depression during this time in their lives, and if they had vasomotor symptoms, they were six times as likely to develop depression," Dr. Cohen said. The 644 women in the study had had no prior depression. Women with any history of depression were 20% more likely to begin having menopausal symptoms earlier than those who never had depression," said lead researcher and study author Bernard L. Harlow, PhD, of Harvard's Brigham and Women's Hospital in Boston, Massachusetts those who were experiencing depressive symptoms when the study began were twice as likely to begin having symptoms."

“Women living in poverty are 80% more likely to begin menopause early. undernourished, have increased exposure to toxins, and more likely to be smokers — all factors that can lead to an earlier onset of menopausal symptoms. But the key is stressful life events...”

?? Cohen, LS. Harvard Study of Moods and Cycles APA 157th Annual Meeting *Arch Gen Psychiatry*. 2003;60:29-36.

“Women perceive these changes as age-related aggravations or attributethem to worsening PMS, these symptoms may in fact result from perimenopause-associated changes in reproductive hormones.^[24-26]”

?? Bachmann GA. The changes before "the change": strategies for the transition to menopause. *Postgrad Med*. 1994;95:113-24.

?? Dennerstein L, Burrows GD. A review of studies of the psychological symptoms found at menopause. *Maturitas*. 1978;1:55-64.

?? Schmidt PJ, Roca CA, Rubinow DR. Clinical evaluation in studies of perimenopausal women: position paper. *Psychopharmacol Bull*. 1998;34:309-11.

General Somatic Sx

“Perimenopausal women may also experience a variety of somatic symptoms, such as palpitations, headaches (especiallyworsening of menstrual migraines), gas, bloating, constipation, and breast pain and enlargement.

“...changes that may occur include hyperpigmentation (age spots), aswell as wrinkles and itching.

“Dental problems may also occur as estrogen levels wane. For example,the buccal epithelium undergoes atrophy due to estrogen deprivation, resulting in decreased saliva and sensation, a bad tastein the mouth, and an increased incidence of caries; tooth loss.”

?? Harper DC. Perimenopause and Aging. In: Lichtman R, Papera S, eds. *Gynecology Well-Woman Care*. Norwalk, Conn: Prentice Hall; 1990.

“Weight gain is another common complaint among perimenopausal women.”

?? Giordano NA, Singleton JK. Managing the perimenopause. *Menopause Manage*. 1995:15-20

“weight gain during this period is associated with fat deposition in the abdomen, which increases thelikelihood of developing insulin resistance and subsequent diabetes and heart disease.”

?? Ley C, Lees B, Stevenson J. Sex and menopause associated changes in body-fat distribution. *Am J Clin Nutr*. 1992;55:950-4.

?? Berga SL, Barbieri RL, Nakajima ST, et al. Managing the perimenopause: the new understanding and its clinical application. *Contemp Ob/Gyn*. 1999:September;3-28.

Menopause rating scales still do not regard voice impairment as a genuine climacteric symptom, although voice changes are frequently reported

?? Barclay, L. Voice Changes Common During Menopause. *Menopause*. 2004;11;151-158.

Hot Flashes

80% of women experience hot flashes during the menopause transition, with greater than 50% of these women reporting hot flashes for at least 5 years. Although many women do not require therapy, 30% to 50% seek pharmacologic treatment for vasomotor symptoms.

“This suggests that depression modifies the effect of smoking on hot flashes in perimenopausal women, such that perimenopausal women with a history of depression who smoked at the time of the study were more likely to have hot flashes than nonsmokers with depression.”

“**Perimenopause is typically studied as a single stage** of the menopause transition; however, physiologic differences have been shown to occur at early, middle, and late stages within perimenopause. In this study we used a single definition of perimenopause. Using detailed menopausal staging may be a preferred method to evaluate variability in correlates of hot flashes.”

?? Riley EH, Inui TS, et al. Differential Association of Modifiable Health Behaviors with Hot Flashes in Perimenopausal and Postmenopausal Women. *Jrn of Gen Intern Med*, 2004;19(7):740-746.

Progesterone replacement

“Because women's needs for exogenous hormones are highly variable, only the deficient hormone or hormones should be replaced. Otherwise, adverse effects of treatment may be worse than the original perimenopausal symptoms.”

?? Sulak PJ. The perimenopause: a critical time in a woman's life. *Int J Fertil Menopausal Stud*. 1996;41(2):85-9.

Progesterone Replacement. Some perimenopausal women produce adequate estrogen but insufficient progesterone. These women may produce sufficient estrogen in their ovaries and in adipose tissue, where androstenedione is converted to estrone. This condition, which is more common in obese women, is manifested by longer cycles and particularly heavy menstrual bleeding with clotting.

Oral progesterone can help regulate bleeding in these women and prevent endometrial hyperplasia. Oral progesterone with micronized progesterone (Prometrium -- Solvay) dosed 200 mg at bedtime for 12 days or medroxyprogesterone acetate (Provera -- Pharmacia & Upjohn; Cycrin -- ESI Lederle) 5 mg to 10 mg daily, or norethindrone acetate (Aygestin -- ESI Lederle) 5 mg for 10 to 14 days each month may be prescribed to ensure regular sloughing of the endometrium. Many women can also tolerate norethindrone, available as a progestin-only minipill (Micronor -- Ortho-McNeil).

Once the patient no longer has withdrawal bleeding after progestin administration or develops symptoms of estrogen deficiency, she can be counseled about the risks and benefits of adding estrogen to her hormone replacement regimen.

Progestins are contraindicated in women with impaired liver function, current or past cerebrovascular disease, orthromboembolic disorders, cancer of the breast or reproductive organs, and undiagnosed vaginal bleeding. Common adverse effects with progestin therapy include bloating, painful breasts, abdominal cramping, mood swings, fatigue, depression, irritability, skin disorders, weight gain, anxiety, and generalized aches and pains. At higher doses, progesterone can induce PMS-like symptoms and depression; these and other adverse effects can be minimized by lowering the dosage. Vaginal progesterone gel can be a worthwhile option for women who cannot tolerate oral progestins; this formulation can be used every other day for 14 days to cause sloughing of the endometrium.

Cross Cultural Anthropological Research:

- ?? Adekunle, A.O. "Perceptions and Attitudes of Nigerian Women About the Menopause." *Journal of Obstetrics & Gynecology*. 20.5 (Sep2000): 525-30.
- ?? Agee, Eve. "Menopause and the Transmission of Women's Knowledge: African American and White Women's Perspectives." *Medical Anthropology Quarterly*. 14.1 (Mar 2000): 73-95.

"Our analysis revealed that the experience of menopause for women is different between Australian and Japanese women."

- ?? Anderson D, Yoshizawa T, et al. Relationship between menopausal symptoms and menopausal status in Australian and Japanese women: preliminary analysis. *Health Care Women Int*. 1996 Jul-Aug;17(4):271-9.
- ?? Bartman, Barbara A. and Ernest Moy. "Racial Differences in Estrogen Use among Middle-Aged and Older Women." *Women's Health Issues*. 8.1 (Jan-Feb 1998): 32-44.
- ?? Berg, Judith A. and Juliene Lipson. "Information Sources, Menopause Beliefs, and Health Complaints of Midlife Filipinas." *Health Care for Women International*. 20.1 (Jan-Feb 1999): 81-92.
- ?? Beyene, Yewoubdar. "Cultural Significance and Physiological Manifestations of Menopause: A Biocultural Analysis." *Culture, Medicine and Psychiatry*. 10.1 (Mar 1986).
 - o --. "Menopause: A Biocultural Event." *Menstrual Health in Women's Lives*. Eds. A. Dan and L. Lewis. Chicago: University of Illinois Press, 1992. 169-177.
 - o --. "Climacteric Expressions in a Cross-Cultural Study." *The Climacteric in Perspective*. Eds. M. Notelovitz and P. van Keep. Lancaster: MTP Press Limited, 1986. 139-147.
 - o --. *From Menarche to Menopause : Reproductive Lives of Peasant Women in Two Cultures*. Albany: State University of New York Press, 1989.
- ?? Beyene, Yewoubdar, and C. Martin. "Menopausal Experiences and Bone Density of Mayan Women in Yucatan, Mexico." *American Journal of Human Biology* 13 (2001): 505-511.
- ?? Boulet, M., et al. "Climacteric and Menopause in Seven South-East Asian Countries." *Maturitas* 19 (1994):157-176.
- ?? Buck, M. and L. Gottlieb. "The Meaning of Time: Mohawk Women at Midlife." *Health Care Women Int*. 12.1 (1991): 41-50.
- ?? Chirawatkul, Siriporn and Lenore Manderson. "Perceptions of Menopause in Northeast Thailand: Contested Meaning and Practice." *Social Science and Medicine*. 39.11 (Dec 1994):1545-54.
- ?? Chornesky, Alice "Multicultural Perspectives on Menopause and the Climacteric." *Affilia: Journal of Women & Social Work*. 13.1 (Spring 1998): 31-55.
- ?? David, Matthias et al. "Female Menopause Comparison of Knowledge and Opinion in German and Turkish-born Women." *Zentralbl Gynakol*. 123.1 (Jan 2000):3-9.
 - o --. "Knowledge Among German and Turkish Women about Specifically Female Bodily Functions, Contraception, Preventative Medical Examinations and Menopause." *Ethnicity & Health*. 5.2 (May 2000):101-113.
- ?? Figueiras, M. J. and T. M. Marteu. "Experiences of the Menopause: A Comparison Between Portugal and the UK." *Journal of Reproductive and Infant Psychology*. 13.2 (April-June1995): 93-100.
- ?? George, Theresa "Canadian Sikh Women and Menopause: A Different View." *International Journal of Sociology of the Family*. 18.2 (Autumn 1988): 297-307.

"Only 26% of the women had experienced hot flashes, but none thought they were severe. Vaginal dryness was reported by 18%. Other symptoms were attributed to other factors in their lives. The women believed menopause to be natural and to be a positive development because it made it easier for them to go on their selling rounds"

- ?? George, T. Women in a south Indian fishing village: role identity, continuity, and the experience of menopause. *Health Care Women Int*. 1996 Jul-Aug;17(4):271-9.
- ?? Guillemin, Marilys. "Blood, Bone, Women and HRT: Co-constructions in the MenopauseClinic." *Australian Feminist Studies*. 15.32 (Jul 2000): 191-204.
- ?? Hendershott, Anne-B. "Menopause as Status Passage: A Cross-Cultural Analysis." (Association Paper) North Central Sociological Association (NCSA). 1986.

- ?? Holmes, Rovner et al. "African-American Women's Attitudes and Expectations of Menopause." *American Journal of Preventive Medicine*. 12.5 (Sept-Oct 1996): 420-423.
- ?? Im, Eun-Ok and Afaf Ibrahim Meleis. "Meanings of Menopause to Korean Immigrant Women." *Western Journal of Nursing Research*. 22.1 (Feb 2000): 84-103.

"The most prevalent symptoms were "worrying about body," "aches in back of neck and skull," and "weight gain." Most of the women perceived "aging" as the main cause of their symptoms and chose not to manage their symptoms. The findings strongly suggest that women's own explanation of their symptoms is frequently different from that of health care providers"

- ?? Im EO, Chee W. A descriptive Internet survey on menopausal symptoms: five ethnic groups of Asian American university faculty and staff. *Exp Gerontol*. 1994 May-Aug;29(3-4):307-17.

"anxiety ... and depression scores ... were significantly higher ($p < 0.001$) compared with [women who did not have] hot flashes." (which was only 10.5% of the study population)

- ?? Juang KD, Wang JS, Lu SR, Lee SJ, Fuh JL. Hot flashes are associated with psychological symptoms of anxiety and depression in peri- and post- but not premenopausal women. *Maturitas*. 2005 Oct 16;52(2):119-26.
- ?? Kaiser, K. "Cross-Cultural Perspectives on Menopause." *Multidisciplinary Perspectives on Menopause*. Eds. M. Flint, F. Kronenberg, and W. Utian. New York: The New York Academy of Sciences, 1990. 430-432.
- ?? Kaufert, P. "Anthropology and the Menopause: The Development of a Theoretical Framework." *Maturitas* 4 (1982):181-193.
- ?? Kaufert, Patricia A. et al. "Menopause Research: the Korpilampi Workshop." *Social Science and Medicine*. 22.11 (1986): 1285-9.
- ?? Kaufert, Patricia A. and Margaret Lock. "What Are Women For?": Cultural Constructions of Menopausal Women in Japan and Canada." *Health and Canadian Society: Sociological Perspectives*. 3rd ed. Eds. David Coburn et al. Ontario: U Toronto Press, 1998. 187-200.
- ?? Komesaroff, Paul et al, eds. **Reinterpreting Menopause: Cultural and Philosophical Issues**. New York, N.Y.: Routledge, 1997.

"...differed significantly in favor of a higher trait intensity concerning the item of hot flashes in Germany and a significantly higher trait intensity in the items cardiac trouble, lack of drive, urological symptoms, vaginal dryness, joint and muscle symptoms in Papua New Guinea."

- ?? Kowalcek I, Rotte D, Banz C, Diedrich K. Women's attitude and perceptions towards menopause in different cultures: cross-cultural and intra-cultural comparison of pre-menopausal and post-menopausal women in Germany and in Papua New Guinea. *Maturitas*. 2005 Jul 16;51(3):227-35.
- ?? Lock, Margaret. "Ambiguities of Aging: Japanese Experience and Perceptions of Menopause" *Culture, Medicine and Psychiatry*. 10.1 (Mar 1986): 23-46.
 - o --. *Encounters With Aging: Mythologies of Menopause in Japan and North America*. Berkeley : University of California Press, 1993.

"Symptom reporting in Japan among a nonclinical, naturally menopausal population is significantly lower and different from the North American samples. In addition Japanese women have a longer life-expectancy and lower rates of heart disease, osteoporosis, and breast cancer than do North American women."

- o Lock. "Menopause in Cultural Context." *Gerontol*. 29.3-4 (May-Aug 1994): 307-317.
- o --. "Political Culture and the Experience of Aging for Women in Japan and America." *Sociologie et Societes*. 28.2 (Autumn 1996): 119-140.

"Mortality and morbidity data from these same societies are used to show that post-menopausal women are also not equally at risk for heart disease, breast cancer, or osteoporosis."

- ?? Lock, Margaret and Patricia Kaufert. "Menopause, Local Biologies, and Cultures of Aging." *American Journal of Human Biology*. 13.4 (Jul-Aug 2001): 494-504.
- ?? Lock, Margaret, Patricia Kaufert and P. Gilbert. "Cultural Construction of the Menopausal Syndrome: The Japanese Case" *Maturitas* 10.4 (1988): 317-332.

"Lack of symptoms during the menopausal transition is not attributable to a difference in endocrinology. Postmenopausal Mayan women are estrogen deprived and experience age-related bone demineralization but do not have a high incidence of osteoporotic fractures"

- ?? Martin, M et al. "Menopause Without Symptoms: Endocrinology of Menopause Among Rural Mayan Indians." *American Journal of Obstetrics and Gynecology*. 168.61 (1993): 1839-1843.
- ?? McMaster, John et al. "The Menopausal Experiences of Women In A Developing Country: "There Is A Time for Everything: To Be A Teenager, A Mother and A Granny." *Women and Health*. 26.4 (1997): 1-13.
- ?? McNagny, Sally E. and Terry A. Jacobson. "Use of Postmenopausal Hormone Replacement Therapy by African American Women." *Archives of Internal Medicine*. 157.12 (1997): 1337-143.
- ?? Mercer, C. "Cross-cultural Attitudes To the Menopause and the Ageing Female." *Age Ageing*. 28.2 (Sept 1999):12-7.

"The association between hormonal changes and menopause symptomatology is complex and mediated by sociocultural factors"

- ?? Obermeyer C.M. "Menopause Across Cultures: A Review of the Evidence." *Menopause*. 7.3 (May-June 2000):184-92
- Punyahotra, S. and A. Street. "Exploring the Discursive Construction of Menopause for Thai Women." *Nursing Inquiry*. 5.2 (June 1998): 96-103.
- ?? Punyahotra, Suwipa et al. "Menopausal Experiences of Thai Women: Part 1. Symptoms and Their Correlates." *Maturitas*. 26.1 (Jan1997).
- ?? Punyahotra, Suwipa and Lorraine Dennerstein. "Menopausal Experiences of Thai women: Part 2. The Cultural Context." *Maturitas* 26.1 (Jan1997).
- FMoore, B. "Climacteric symptoms in an African community." *Maturitas*. 3.1 (March 1981): 25-29.
- ?? Sharma VK, Saxena M. "Climacteric Symptoms: A Study in the Indian Context" *Maturitas*. 3 (1981):11-20.

"African American women were significantly more positive in attitude. The least positive groups were the less acculturated Chinese American and Japanese American women. Menopausal status was not a consistent predictor of attitude across ethnic groups"

- ?? Sommer, B. et al. "Attitudes Toward Menopause and Aging Across Ethnic/ Racial Groups." *Journal of Psychosomatic Medicine*. 61.6 (Nov-Dec1999): 868-75.
- ?? Rice, Pranee Liamputtong. "Pog laus, tsis coj khaub ncaws lawn: The Meaning of Menopause in Hmong Women." *Journal of Reproductive and Infant Psychology*. 13.2 (April-June 1995): 79-92.
- ?? Richters J.M. "Menopause in Different Cultures." *Journal of Psychosomatic Obstetrics and Gynecology*. 18.2 (June1997): 73-80.
- ?? Rizk D.E. et al. "The Age and Symptomatology of Natural Menopause Among United Arab Emirates Women." *Maturitas*. 20.3 (June 1998): 197-202.
- ?? Robinson G. "Cross-cultural perspectives on menopause." *Journal of Nervous and Mental Disorders*. 184.8 (August 1996): 453-8.
- NASokolovsky, Jay. **Growing Old in Different Societies: Cross-Cultural Perspectives**. Belmont, California: Wadsworth Publishing Company, 1983.

"American society is heavily youth-oriented...The emphasis on hormone treatment, incorrectly termed "replacement," has exacerbated women's fears of aging."

- ?? Stotland, NL. Menopause: social expectations, women's realities. *Arch Women Ment Health*. 2002 Aug;5(1):5-8.

"Only 18% of women experienced hot flushes.... A majority of women (74%) felt that the climacteric and menopause is a natural process which caused them no concern. "

?? Tang G. "The Climacteric of Chinese Factory Workers." *Maturitas* 19 (1994): 177-182.

?? Tlou S. **The Experience of the Perimenopause Among Botswana Women**. Chicago: University of Illinois, 1990.

?? Wasti S. et al. "Characteristics of Menopause in Three Socioeconomic Urban Groups in Karachi, Pakistan." *Maturitas*. 16 (1993): 61-69.

?? Zhang, Qingxue et al. "The Socio-Demographic Characteristics of Outpatients Attending a Perimenopausal Clinic in Guangzhou, China." Association-Paper. Southern Sociological Society (SSS). 2001.

Current Mainstream Medical Info

North American Menopause Society

<http://www.menopause.org>

Women's Health Initiative

<http://www.whi.org>

(An excellent lit review article on this is by Susan Reed & Eliza Sutton, "Menopause" on webmd)

North American Menopause Society defines the perimenopause as the entire menopausal transition plus 1 year after the final menstrual period. During the perimenopause, a woman begins to experience the changes associated with impending menopause. Although each woman is different, the perimenopause typically begins in the mid- to late 40s and menopause occurs at an average age of 51.

?? North American Menopause Society. *The Menopause Guidebook*. www.menopause.org/consedu/guidebook.html. 2000.

It is associated with erratic fluctuations in reproductive hormone levels, often leading to irregular menstrual cycles, vasomotor symptoms, changes in mood or cognition, and sexual dysfunction.

?? McKinlay SM, Brambilla DJ, Posner JG. The normal menopause transition. *Maturitas*. 1992;14:103-5.

With the aging of the baby boom generation, 21 million women in the United States are projected to enter menopause in the next decade.^[2] Currently, more than 19 million women are between the ages of 45 and 54 in the United States, and the number of women in this age group has jumped nearly 45% in the past decade.

?? Sulak PJ. The perimenopause: a critical time in a woman's life. *Int J Fertil Menopausal Stud*. 1996;41(2):85-9.

?? US Bureau of the Census. *Statistical Abstract of the United States: 1990*. 110th ed. Washington, DC: US Bureau of the Census; 1990.

Up to 85% of perimenopausal women experience symptoms of vasomotor instability, including hot flashes, night sweats (hot flashes that occur with drenching perspiration during sleep), and sleep disturbances.

Hot flashes occur more frequently and severely before and during the first few days of the menstrual period (when estrogen levels are lowest) and can be precipitated by heat, stress, alcohol, and spicy foods.

?? LeBoeuf FJ, Carter SG. Discomforts of the perimenopause. *J Obstet Gynecol Neonatal Nurs*. 1996;25(2):173-80.

?? Kronenberg F. Hot flashes: epidemiology and physiology. *Ann NY Acad Sci*. 1990;592:52.

References

1. Research on the Menopause in the 1990's. Proceedings of a meeting. Geneva, Switzerland, 14-17 June 1994. *Maturitas* 23:109, 1996
2. Soules MR, Sherman S, Parrott E, et al: Executive summary: Stages of Reproductive Aging Workshop (STRAW). *Climacteric* 4:267, 2001 [PMID 11770182]
3. McKinlay SM, Brambilla DJ, Posner JG: The normal menopause transition. *Maturitas* 14:103, 1992 [PMID 1565019]
4. Treloar AE: Menstrual cyclicity and the pre-menopause. *Maturitas* 3:249, 1981 [PMID 7334935]
5. Kronenberg F: Hot flashes: epidemiology and physiology. *Ann N Y Acad Sci* 592:52, 1990 [PMID 2197954]
6. Kato I, Toniolo P, Akhmedkhanov A, et al: Prospective study of factors influencing the onset of natural menopause. *J Clin Epidemiol* 51:1271, 1998 [PMID 10086819]
7. Gold EB, Bromberger J, Crawford S: Factors associated with age at natural menopause in a multiethnic sample of midlife women. *Am J Epidemiol* 153:865, 2001 [PMID 11323317]
8. Rodstrom K, Bengtsson C, Milsom I, et al: Evidence for a secular trend in menopausal age: a population study of women in Gothenburg. *Menopause* 10:538, 2003 [PMID 14627863]
9. McKinlay SM: The normal menopause transition: an overview. *Maturitas* 23:137, 1996 [PMID 8735352]
10. van Noord PA, Dubas JS, Dorland M, et al: Age at natural menopause in a population-based screening cohort: the role of menarche, fecundity, and lifestyle factors. *Fertil Steril* 68:95, 1997 [PMID 9207591]
11. Cooper GS, Thorp JM: FSH levels in relation to hysterectomy and to unilateral oophorectomy. *Obstet Gynecol* 94:969, 1999 [PMID 10576184]
12. Baker TG: Radiosensitivity of mammalian oocytes with particular reference to the human female. *Am J Obstet Gynecol* 110:746, 1971 [PMID 4935165]
13. Soules MR, Bremner WJ: The menopause and climacteric: endocrinologic basis and associated symptomatology. *J Am Geriatr Soc* 30:547, 1982 [PMID 7050219]
14. Mitchell ES, Woods NF, Mariella A: Three stages of the menopausal transition from the Seattle Midlife Women's Health Study: toward a more precise definition. *Menopause* 7:334, 2000 [PMID 10993033]
15. Snieder H, MacGregor AJ, Spector TD: Genes control the cessation of a woman's reproductive life: a twin study of hysterectomy and age at menopause. *J Clin Endocrinol Metab* 83:1875, 1998 [PMID 9626112]
16. Treloar SA, Do KA, Martin NG: Genetic influences on the age at menopause. *Lancet* 352:1084, 1998 [PMID 9798581]
17. Torgerson DJ, Thomas RE, Reid DM: Mothers and daughters menopausal ages: is there a link? *Eur J Obstet Gynecol Reprod Biol* 74:63, 1997 [PMID 9243205]
18. Weel AE, Uitterlinden AG, Westendorp IC, et al: Estrogen receptor polymorphism predicts the onset of natural and surgical menopause. *J Clin Endocrinol Metab* 84:3146, 1999 [PMID 10487678]
19. Rannevik G, Jeppsson S, Johnell O, et al: A longitudinal study of the perimenopausal transition: altered profiles of steroid and pituitary hormones, SHBG and bone mineral density. *Maturitas* 21:103, 1995 [PMID 7752947]
20. Cooper GS, Baird DD, Hulka BS, et al: Follicle-stimulating hormone concentrations in relation to active and passive smoking. *Obstet Gynecol* 85:407, 1995 [PMID 7862381]
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