Royal United Hospitals Bath
NHS Foundation Trust

Menopause

Current Awareness Bulletin

December 2025

Our Current Awareness Bulletins provide details of recently published articles in a given subject. They are a quick and easy way to keep up to date.

Please contact the Academy Library to request any articles:

ruh-tr.library@nhs.net

01225 82 4897/4898

Carry out basic searches using the Knowledge and Library Hub.

Sign up to NHS OpenAthens to access our subscriptions.

Contact us to receive our bulletins via email each month.

Get personalised alerts via our KnowledgeShare service.

ruh.nhs.uk/library

New training via MS Teams available from the Academy Library:

- **Bitesize searching databases for evidence: a quick guide to help you develop your literature searching skills**
  45 minutes. Learn how to transform a question into a search strategy, and how to find the best evidence in a database.

  Next sessions: 22nd January 2026 @ 2pm and 13th February 2026 @ 3pm

- **Simple and painless evidence into practice (BMJ Best Practice and the LKS Hub)**
  30 minutes. Learn about quick and hassle-free ways to seamlessly incorporate evidence into your daily work.

  Next sessions: 16th January 2026 @ 10am and 2nd February 2026 @ 11am

- **Quickfire health literacy: communicating with patients more effectively**
  30 minutes. Learn about the communication barriers patients may encounter, and ways to ensure they get the most from their care.

  Next sessions: 7th January 2026 @ 2pm and 19th February 2026 @ 3pm

Book a session today at https://forms.office.com/e/HyiSXfDaYV (these sessions will be held on a monthly basis)

Are you looking for a bite-size bulletin that focuses on the staff experience of menopause and its symptoms?

Contact Helen Clemow at Salisbury NHS Foundation Trust to receive a blend of news and information based on topics discussed at their *Menopause Tea and Talk* sessions: helen.clemow@nhs.net

Guidelines

1. **Nurse Specialist in Menopause [role guideline]**

Item Type: Report

Authors: Royal College of Nursing

Publication Date: 2025

Abstract: The menopause happens to all women, however the degree of its impact on a woman's quality of life and the symptoms experienced are very individual. The role of a specialist in menopause was included in the 2024 NICE guidelines on managing menopause, however the detail of how this role might be implemented in practice was less clear and subsequently the British Menopause Society (BMS) produced a guide for all health care professionals. This updated publication builds on the BMS agreed standards, focusing on the

options for nurses who may choose a career pathway towards becoming a specialist practitioner in menopause.

Research

1. **The Impact of Social Support Interventions on Menopausal Symptoms: A Systematic Review.**

Authors: Faryabi R.;Yoshany N.;Zareipour M.;Daneshi S.;Hanna F. and Movahed, E.

Publication Date: 2026

Journal: Current Women's Health Reviews 22(1) (pagination), pp. Date of Publication: 2026

Abstract: Introduction: A comprehensive search was conducted to investigate the effect of social support interventions on menopausal symptoms. The search covered studies published from March 2010 to March 2022.
Method(s): A comprehensive search was conducted using the keywords "educational interventions", "menopause", "social support", and "clinical trial" in the PubMed, Scopus, Web of Science, Science Direct, Cochrane, and Google Scholar databases.
Result(s): Out of 23 randomized controlled trials (RCT) included in this review, one focused on postmenopausal women over 30, four on women over 40, 14 on women over 45, and four did not report age. Social support interventions varied widely, with nine targeting vasomotor symptoms (hot flashes), seven focusing on improving knowledge, performance, physical and mental health, and relationships, and the rest addressing nutrition, exercise, and depression. Sample sizes ranged from 42 to 4974 participants aged between 40 and 70 years, and the duration of the interventions was from two weeks to two years.
Conclusion(s): The results suggest that supportive and educational interventions, especially those involving spousal support and training of healthcare professionals can effectively reduce menopausal symptoms. Studies with longer duration reported greater effects. It is suggested to consider a comprehensive approach that includes educational interventions, emotional intelligence, nutrition and exercise, cultural factors, quality of life, and marital satisfaction to reduce menopausal symptoms.

---

2. **The Non-Cisgender Experience of Menstruation and Menopause: Literature Review and Recommendations.**

Authors: Gravely A.K. and Brotto, L. A.

Publication Date: 2026

Journal: Journal of Obstetrics and Gynaecology Canada 48(1) (pagination), pp. Article Number: 103161. Date of Publication: 01 Jan 2026

Abstract: This communication examines the experience of menstruation and menopause, and the influence of gender identity. Gender affirming hormone therapy and sociocultural contributors in healthcare pose unique challenges for transgender [i] and non-binary [ii] persons in the context of menstruation and menopause. Moreover, gender diverse [iii] persons experience a higher prevalence of chronic pelvic pain, and barriers to diagnosis of endometriosis and pre-menstrual dysphoric disorder. While there is much discussion surrounding menopause hormone therapy, there has been inadequate attention to this topic in the context of gender-diverse experiences. Here we provide clinical and research recommendations for a treatment approach in this population. Copyright © 025 The Author.

---

3. **Women using menopausal hormone therapy who suicide have multiple risk factors.**

Authors: Lappin J.M.;Darke S.;Grattan S. and Havard, A.

Publication Date: 2026

Journal: Maturitas 204(pagination), pp. Article Number: 108784. Date of Publication: 01 Jan 2026

Abstract: Objectives: To describe the characteristics, clinical presentation, documented risk factors for suicide, circumstances of death and toxicology of deaths by suicide in Australia, 2000-2024, among people known to be receiving menopause hormonal therapy. Design(s): A retrospective descriptive study. Setting(s): National population-level data retrieved from the National Coronial Information System. Main Outcome Measure(s): Characteristics, clinical presentation, circumstances of death, documented risk factors for suicide and toxicology in all cases of death by suicide among people known to be receiving menopause hormonal therapy at their time of death in Australia, 2000-2024. Result(s): 63 cases were identified with a mean age of 54 years (range 50-59). Mental health diagnoses were present in almost all cases (93.7 %), with a preponderance of anxiety and depression. Prior suicidal behaviours were present in over half (52.4 %) and chronic pain in one-third (30.2 %). Almost all of these women (96.8 %) had at least one risk factor for suicide and 79.3 % had two or more risk factors. The most common circumstances of death were drug toxicity (39.7 %) or hanging (36.5 %). Psychoactive drugs were present in blood in the majority (93.5 %), most commonly antidepressants (53.2 %), hypnosedatives (50.0 %) and opioids (29.0 %). Conclusion(s): Menopause hormonal therapy remains the most effective treatment for management of vasomotor symptoms and this study does not demonstrate any causal risk for suicide. Rather, it highlights that women prescribed menopause hormonal therapy who suicide have multiple risk factors for suicide including psychiatric complexity, prior suicidal behaviours, physical health comorbidity and concomitant psychoactive substance use. Copyright © 2025 The Authors

---

4. **The efficacy and safety of romosozumab sequential therapy in postmenopausal women: A systematic review and meta-analysis.**

Authors: Li T.;Zheng W.;Zhang Q.;Liao M.;Jin L.;Wu F.;Zhou F.;Wang Y.;Gong W.;Xia Y.;Lin Z.;Xiong X.;He Y.;Ye J. and Huang, J.

Publication Date: 2026

Journal: Journal of Orthopaedics 72, pp. 152–159

Abstract: Background: Recent guidelines increasingly recognize the importance of sequential therapy in osteoporosis management. However, optimal protocols involving the anabolic agent romosozumab require further elucidation. While previous meta-analyses support the use of osteoanabolic sequential therapy, uncertainties remain regarding the specific application of romosozumab in such regimens.
Objective(s): This meta-analysis aims to provide detailed evidence on the efficacy and safety of romosozumab sequential therapy, specifically focusing on fracture prevention and bone mineral density (BMD) improvement in postmenopausal women with osteoporosis. Data sources and methods: A systematic literature search of PubMed, Embase, and Web of Science was conducted from January 2014 to December 2024. Two authors independently extracted data and assessed bias, with disagreements resolved by a third. Effect sizes were pooled using fixed- and random-effects models. The primary outcome was fracture incidence; secondary outcomes included BMD changes and adverse event rates.
Result(s): Twelve randomized controlled trials were included. Sequential treatment with romosozumab followed by anti-resorptive agents (e.g., denosumab, alendronate) significantly reduced fracture incidence and increased BMD at the lumbar spine, total hip, and femoral neck compared to non-sequential therapy.
Conclusion(s): Romosozumab sequential therapy may reduce fracture risk and improve BMD in postmenopausal women with osteoporosis, without a significant increase in short-term adverse events. However, evidence regarding new vertebral fractures and certain BMD outcomes remains limited in robustness, warranting further validation through high-quality, long-term studies. Copyright © 2025 The Authors

---

5. **Beyond Estrogen: Unraveling the Complexities of Hormonal Signaling Pathways in Alzheimer's Disease and Their Implications for Precision Therapy.**

Authors: Mohammed S.N.;Direksunthorn T.;Zwamel A.H.;Uthirapathy S.;Ballal S.;Kalia R.;Arya R.;Naidu K.S.;Ahmad I. and Ahmed, J. K.

Publication Date: 2026

Journal: Molecular Neurobiology 63(1) (pagination), pp. Article Number: 77. Date of Publication: 01 Jan 2026

Abstract: Alzheimer's disease (AD) is a neurodegenerative disorder characterized by the accumulation of amyloid-beta (Abeta) plaques and neurofibrillary tangles (NFTs), leading to cognitive decline. Women, particularly postmenopausal women, are disproportionately affected by AD, with research indicating that estrogen may play a protective role in cognitive health. Estrogen, primarily 17beta-estradiol, has been shown to modulate Abeta metabolism, reduce tau hyperphosphorylation, and enhance synaptic plasticity. These neuroprotective effects are mediated through estrogen receptors, including ERalpha, ERbeta, and GPER, which activate signaling pathways critical for neuronal health. Epidemiological data suggest that hormone replacement therapy (HRT) in postmenopausal women may reduce the risk of AD; however, clinical results remain mixed, with some studies showing limited or even adverse effects. Understanding the complex relationship between estrogen and AD pathogenesis is crucial for advancing therapeutic interventions aimed at mitigating neurodegenerative processes,

particularly in women at higher risk for AD. This review aims to synthesize current knowledge on estrogen's impact on AD and highlight potential avenues for future research and therapeutic development. This review explores the intricate relationship between estrogen signaling and AD, emphasizing the hormone's neuroprotective properties and its potential therapeutic applications.

---

6. **Impact of sleep fragmentation and estradiol suppression on positive and negative affect: Results of an experimental model of menopause.**

Authors: Nathan M.D.;Spagnolo P.A.;Grant L.K.;Rahman S.A.;Gonsalvez I.;Harder J.;Kim H.;Wiley A. and Joffe, H.

Publication Date: 2026

Journal: Psychoneuroendocrinology 184(pagination), pp. Article Number: 107690. Date of Publication: 01 Feb 2026

Abstract: Background The menopausal transition (MT) represents a period of increased risk for depressive symptoms. Emergence of these symptoms may reflect dysregulations in affect caused by fundamental MT characteristics, particularly sleep disturbance, estradiol decline, and vasomotor symptoms (VMS). Using an experimental paradigm mimicking menopause, we examined the effects of MT-related characteristics on affect. Methods 38 premenopausal women without affective disorders completed a 6-day experimental paradigm comprising 2 nights of unfragmented sleep followed by 3 nights of provoked sleep fragmentation, during the high-estradiol mid-to-late-follicular menstrual phase. A subset (n = 27) repeated the paradigm after leuprolide-suppressed estradiol (low-estradiol). Positive affect (PA) and negative affect (NA) ratings were obtained daily using the Positive and Negative Affect Schedule. Results Sleep fragmentation adversely influenced PA and NA acutely after one night of fragmentation ($p < 0.007$). This effect persisted following 3 nights of sleep fragmentation for NA ($p = 0.02$), but not PA ($p = 0.46$). Conversely, estradiol suppression increased PA ($p = 0.0.03$) but not NA ($p = 0.51$). In the low-estradiol condition, women who developed VMS trended toward having a more pronounced and sustained reduction in PA over three nights of sleep fragmentation compared to those who did not ($p = 0.09$). Conclusions Our findings show that MT-related characteristics significantly disrupt both positive and negative affect, potentially underlying emergence of depressive symptoms during this reproductive stage. We observed differential effects on positive and negative affect, with sleep fragmentation having a greater effect on NA and estradiol and VMS having a greater effect on PA, suggesting benefit for tailoring interventions that target specific types of affect regulation.

---

7. **Estetrol for the treatment of moderate to severe vasomotor symptoms in postmenopausal women: The design of the E4COMFORT I and II trials.**

Authors: Panay N.;Simoncini T.;Taziaux M.;Bouchard C.;Black A.;Kapoor E.;Utian W.;Foidart J.M. and Lobo, R. A.

Publication Date: 2026

Journal: Maturitas 204(pagination), pp. Article Number: 108781. Date of Publication: January 2026

Abstract: Estetrol is a natural estrogen with a favorable safety profile, showing minimal effects on liver proteins, blood clotting, and breast tissue, which may reduce the risks of blood clots and cardiovascular disease. This review presents the profile of estetrol in support of the rationale of two pivotal phase 3 clinical trials, E4COMFORT I and E4COMFORT II, as well as the design of those. E4COMFORT I and II are aimed at assessing the efficacy and safety of estetrol in the treatment of moderate to severe vasomotor symptoms in postmenopausal women. The E4COMFORT I and II trials were divided into an efficacy part (arms 1-3) and a safety part (arm 4). Efficacy was evaluated through a randomized, double-blind, placebo-controlled study examining two doses of estetrol (15 mg and 20 mg) in postmenopausal participants, both hysterectomized and non-hysterectomized, who experienced 7 or more moderate to severe vasomotor symptoms per day (or 50 or more per week). To comply with Food and Drug Administration and European Medicines Agency guidelines for long-term safety assessments in both groups, these trials evaluated the overall and endometrial safety of unopposed estetrol and of estetrol combined with natural progesterone. The total enrolment across the E4COMFORT I and II trials was 2576 participants. The results of these trials are expected to give a thorough understanding of estetrol 's potential as a new, distinctive treatment option for women with postmenopausal symptoms. ClinicalTrials registration: NCT04209543 and NCT04090957.

---

8. **Identifying the content, capabilities, and design features of a mobile-based cognitive behavioral therapy intervention for managing menopausal symptoms**

Authors: Pourshahrokhi, Najmeh;Hunter, Myra;Farokhzadian, Jamileh and Ahmadian, Leila

Publication Date: 2026

Journal: International Journal of Medical Informatics 206, pp. N.PAG

---

9. **Mobile home exercise application accelerating bone mineral density among postmenopausal osteoporosis Japanese women with bazedoxifene: An open-label, non-randomized, pilot study.**

Authors: Yamamoto Y.;Inoue D.;Inoue R.;Inage K.;Murata Y.;Shigemura T.;Morimoto M.;Kono K. and Rokuta, Y.

Publication Date: 2026

Journal: Journal of Clinical Densitometry 29(1) (pagination), pp. Article Number: 101639. Date of Publication: 01 Jan 2026

Abstract: Objectives: This study developed a home exercise application, LongLifeSupport, which provides basic daily exercise videos and an automatic recording calendar. Exercise

plays an important role in bone health, as it positively influences bone mineral density (BMD). However, its effects on drug treatment remain unclear. This pilot study aimed to determine the effects of exercise on BMD, quality of life (QOL), and physical function among patients with osteoporosis.
Method(s): Fifty patients with untreated osteoporosis were included, non-randomized, and equally divided into two groups: the application group or the pamphlet group. Both groups started bazedoxifene treatment and exercised for 52 weeks. At 24 and 52 weeks, we assessed BMD (lumbar spine, femoral neck, and total hip), serum parameters, EuroQol five dimensions (EQ-5D), short physical performance battery score, and short test battery score for locomotive syndrome.
Result(s): At 52 weeks, the percentage changes from baseline in femoral neck and total hip BMD (5.6% and 2.5%, respectively) were significantly greater in the application group than in the pamphlet group (2.1% and 1.0%, respectively). The application group revealed a significantly higher adherence rate (70.8%) compared to the pamphlet group (52.2%) and significant improvements between baseline and 52 weeks in the EQ-5D visual analog scale, two-step test (stage and value) using a short test battery for locomotive syndrome, and chair stand seconds of the short physical performance battery.
Conclusion(s): Home exercise with bazedoxifene significantly improved BMD, QOL, and physical ability compared to pamphlets. Hence, this application provides an effective exercise program and may be utilized for elderly women with osteoporosis.

---

10. **The STING-OLA1-Keap1-Nrf2 axis regulates ferroptosis in premature ovarian failure.**

Authors: Zhang N.;Li J.;Zhang R.;Chen H.;He F.;Li F.;He Z.;Liu X.;Cheng L.;Zhong F. and Zhu, F.

Publication Date: 2026

Journal: International Journal of Biological Macromolecules 337(pagination), pp. Article Number: 149424. Date of Publication: 01 Jan 2026

Abstract: Premature ovarian failure (POF) is a serious reproductive disorder that deprives women of fertility and predisposes them to long-term metabolic, cardiovascular, and neuropsychological complications. Here we reveal that cyclic GMP-AMP synthase (cGAS)-stimulator of interferon genes (STING) pathway driven ferroptosis is a key mechanism of granulosa-cell loss in POF. Mitochondrial stress releases cytosolic mtDNA, activating the cGAS-STING pathway. Activated STING was found to be a key upstream driver of ferroptosis by suppressing the Nrf2-mediated antioxidant defense system. Mechanistically, we identified Obg-like ATPase 1 (OLA1) as a novel STING-interacting protein. STING activation enhanced its binding to OLA1, disrupting the OLA1-Keap1 interactions, which in turn liberated Keap1 to promote Nrf2 degradation. Gene knockdown or pharmacologic inhibition of STING restored Nrf2 activity, limited ferroptosis in cellular models of POF and preserved follicular integrity in murine models of POF. Furthermore, we demonstrate that the natural flavonoid Icariin (ICA) binds directly to the His50/Asn131 pocket of STING, competitively displacing OLA1 and thereby enhancing OLA1-Keap1 interaction. This molecular realignment restores Nrf2 signaling, attenuates ferroptosis, and significantly preserves ovarian reserve in vivo. Collectively, our findings define the STING-OLA1-Keap1-Nrf2 axis as a pivotal driver of

ferroptosis in POF and position ICA as a STING-targeting agent for this pathway. This mechanistic insight offers a substantial foundation for developing targeted ovarian-protective therapies, providing a mechanistic basis for exploring new therapeutic strategies for POF. Copyright © 2025

---

11. **The role of masturbation in relieving symptoms associated with menopause**

Authors: Lehmiller, Justin J.;Graham, Cynthia A.;Ferrall, Louise;Mendelson, Emily A. and Prine, Merissa S.

Publication Date: 2025

Journal: Menopause

Abstract: Objectives: The present research sought to explore the potential role of masturbation in the relief of symptoms associated with menopause. Methods: A demographically representative US sample of 1,178 women ages 40-65 completed an online survey about their current symptom management strategies (including masturbation) and their efficacy. Data were analyzed quantitatively using t tests and χ2, and qualitatively with thematic analysis. Results: Nearly one in five perimenopausal and postmenopausal women had noticed that self-pleasure provided symptom relief. Relative to other symptom management strategies, masturbation was rated among the highest in providing symptom relief, especially with respect to psychological symptoms (ie, mood changes) and sleep disturbances. Nearly half of perimenopausal and postmenopausal women indicated that they would be open to trying masturbation as a symptom relief approach if their doctor recommended it. Conclusions: Masturbation may play a valuable role in managing menopause symptoms, and it is important that physicians discuss the potential benefits of self-pleasure with their patients.

In the news

Doctors respond to ‘data-free’ decision over menopause hormone therapy: ‘It’s not true’

Melody Schreiber, 24 November 2025

“Estrogen-related medications for menopause will no longer carry broad black-box warnings, Marty Makary, commissioner of the US Food and Drug Administration (FDA), announced last week, bypassing the regulatory agency’s typical process and, according to experts, overstating the science behind the medications – with troubling implications for future drug decisions.”

https://www.theguardian.com/us-news/2025/nov/24/menopause-hormone-therapy

Menopause Exchange Newsletter

Issue 106 Autumn 2025

- A man’s guide to the menopause
- Non-hormonal treatments for sweats and flushes
- Nutrition at the post-menopause
- HRT prescriptions

Anyone with an interest in the menopause, midlife and post-menopausal health can receive The Menopause Exchange quarterly newsletters for FREE: www.menopause-exchange.co.uk to subscribe

Sources used:

The following were used in the creation of this bulletin: Embase, Emcare, CINAHL, and Google.

Disclaimer:

Royal United Hospital Bath Healthcare Library will endeavour to use the best, most appropriate and most recent sources available to it, but accepts no liability for the information retrieved, which is subject to the content and accuracy of databases, and the limitations of the search process. The library assumes no liability for the interpretation or application of these results, which are not intended to provide advice or recommendations on patient care.