

Estrogen Vindication, Part 2: Estrogen, Cancer Stem Cells, and Studies

By Devaki Lindsey Berkson, DC

COMPLETE REFERENCES

1. Atherosclerosis. 2016;254:282-290. doi:10.1016/j.atherosclerosis.2016.10.005 Back to the future: Hormone replacement therapy as part of a prevention strategy for women at the onset of menopause.
2. JAMA. 2002;288(3):321-333. doi:10.1001/jama.288.3.321 Risks and Benefits of Estrogen Plus Progestin in Healthy Postmenopausal Women: Principal Results From the Women's Health Initiative Randomized Controlled Trial.
3. Biometrics. 2005;61(4):899-941. doi:10.1111/j.0006-341X.2005.454_1.x Statistical issues arising in the Women's Health Initiative.
4. Hum Reprod. 2003;18(10):1992-1999. doi:10.1093/humrep/deg406 Issues to debate on the Women's Health Initiative (WHI) study. Hormone replacement therapy: an epidemiological dilemma?
5. Ann N Y Acad Sci. 2006;1092:331-340. doi:10.1196/annals.1365.030 Pitfalls of the WHIs: Women's Health Initiative.
6. Fertility and Sterility, Volume 84, Issue 6, 1589 - 1601 A critique of the Women's Health Initiative hormone therapy study.
7. Climacteric. 2003;6 Suppl 1:11-36. Hormone replacement therapy in the post-Women's Health Initiative era. Report a a meeting held in Funchal, Madeira, February 24-25, 2003.
8. Gynecol Endocrinol. 2006;22(6):303-317. doi:10.1080/09513590600717368 The effect of medroxyprogesterone acetate on estrogen-dependent risks and benefits--an attempt to interpret the Women's Health Initiative results.
9. Ann N Y Acad Sci. 2005;1052:43-56. doi:10.1196/annals.1347.004 Is the estrogen controversy over? Deconstructing the Women's Health Initiative study: a critical evaluation of the evidence.
10. J Fam Plann Reprod Health Care. 2011;37(4):225-230. doi:10.1136/jfprhc-2011-0091 Does hormone replacement therapy cause breast cancer? An application of causal principles to three studies: part 3. The Women's Health Initiative: unopposed estrogen.





- controlled trials (RCTs), the trial outcomes change in approximately 1 of 3 cases.
doi:10.1001/jama.2014.9646 Reanalyses of randomized clinical trial data.
14. J Obstet Gynaecol Res. 2005;31(2):80–93. doi:10.1111/j.1447-0756.2005.00251.x Clinical appraisal of the Women's Health Initiative.
 15. Fertil Steril. 2004;81(6):1498–1501. doi:10.1016/j.fertnstert.2004.02.095 The Women's Health Initiative could not have detected cardioprotective effects of starting hormone therapy during the menopausal transition.
 16. San Antonio Breast Cancer Symposium 2019: Abstract GS5-00. Presented December 13, 2019. See whole abstract in appendix section.
 17. 2019 SABCS Abstracts Home Print Page Session GS5 - GS5. General Session 5 GS5-00. Long-term influence of estrogen plus progestin and estrogen alone use on breast cancer incidence: The Women's Health Initiative randomized trials December 13, 2019, 9:30 AM - 9:45 AM
Authors/Cancer Centers: Los Angeles BioMedical Research Institute at Harbor-UCLA Medical Center, Torrance, CA; Fred Hutchinson Cancer Research Center, Seattle, WA; Brigham and Women's Hospital, Boston, MA; Stanford Prevention Research Center, Stanford, CA; University of Washington, Seattle, WA; Pitt Public Health, Pittsburgh, PA; Karmanos Cancer Institute, Detroit, MI; Stony Brook University, Stony Brook, NY; University of Tennessee Health Science Center, Memphis, TN; Albert Einstein Cancer Center, Bronx, NY; The Ohio State University, Columbus, OH; UF Health Internal Medicine, Gainesville, FL
 18. ASCO Posts Editorial breast cancer By Avrum Bluming / February 25, 2020 Postmenopausal Estrogen and Risk of Breast Cancer: What Is the Real Story?
 19. Metab. 2012;23(11):576–581. doi:10.1016/j.tem.2012.03.008 Estrogen and the skeleton. Trends Endocrinol.
 20. International Journal of Pharmaceutical Compounding 17(1):74-85 · April 2013 The effects of compounded bioidentical transdermal hormone therapy on hemostatic, inflammatory, immune factors; cardiovascular biomarkers; quality-of-life measures; and health outcomes in perimenopausal and postmenopausal women.
 21. Neurology. 2012 Oct 30;79(18):1846-52. doi: 10.1212/WNL.0b013e318271f823. Hormone therapy and Alzheimer disease dementia: new findings from the Cache County Study.
 22. Menopause. 2019 Dec;26(12):1366-1374. doi: 10.1097/GME.0000000000001405. Lifetime estrogen exposure and cognition in late life: the Cache County Study.
 11. Cancer J. 2009;15(2):93–104. doi:10.1097/PPO.0b013e31819e332a Hormone replacement therapy: real concerns and false alarms [published correction appears in Cancer J. 2009 May-Jun;15(3):262].
 12. Geriatrics. 2004;59(11):30–37. Hormone replacement therapy: the debate should continue.
 13. JAMA. 2014;312(10):1024–1032. When researchers reanalyze patient-level data from randomized

23. Postepy Hig Med Dosw (Online). 2017 Jun 8;71(0):454-465. Mitochondria: Target organelles for estrogen action.
24. Biochem Med (Zagreb). 2014 Oct 15;24(3):329-42. doi: 10.11613/BM.2014.035. eCollection 2014. The many faces of estrogen signaling.
25. Fertil Steril. 2009 Feb;91(2):425-31. doi: 10.1016/j.fertnstert.2007.11.061. Effects of hormone therapy and tibolone on body composition and serum leptin levels in postmenopausal women.
26. Sex Med Rev. 2019 Jul;7(3):416-421. doi: 10.1016/j.sxmr.2019.03.006. The History of Estrogen Therapy.
27. xid Med Cell Longev. 2019 Apr 17;2019:5305014. doi: 10.1155/2019/5305014. eCollection 2019. The Protective Roles of Estrogen Receptor β in Renal Calcium Oxalate Crystal Formation via Reducing the Liver Oxalate Biosynthesis and Renal Oxidative Stress-Mediated Cell Injury.
28. J Surg Res. 2016 Jun 15;203(2):324-30. doi: 10.1016/j.jss.2016.02.038. Estrogen attenuates renal IRI through PPAR- γ agonism in rats.
29. Ren Fail. 2016 Aug;38(7):1129-35. doi: 10.1080/0886022X.2016.1184958. Protective effects of estrogen and bortezomib in kidney tissue of post-menopausal rats: an ultrastructural study.
30. Gynecol Endocrinol. 2015;31(7):582-585. doi:10.3109/09513590.2015.1065478 Anti-aging effect of estrogen on telomerase activity in ovariectomised rats--animal model for menopause.
31. Cancer 1993; 71:2127-40. Risk factors for breast cancer development.
32. Eur J Cancer. 2019 Jul; 115:68-78. doi: 10.1016/j.ejca.2019.03.021. Breast cancer, placenta and pregnancy.
33. Breast J. 2004 Sep-Oct; 10(5):465. Breast cancer in nuns.
34. Int J Cancer. 1990 Oct 15; 46(4):597-603. Age at first birth, parity and risk of breast cancer: a meta-analysis of 8 studies from the Nordic countries.
35. Int J Cancer. 46(4):597-603, 1990. Age at first birth, parity and risk of breast cancer: a meta-analysis of 8 studies from the Nordic countries.
36. Int J Cancer. 1990 Oct 15; 46(4):597-603. Age at first birth, parity and risk of breast cancer: a meta-analysis of 8 studies from the Nordic countries.
37. https://abstracts.asco.org/239/AbstView_239_264719.html. 11506. ASCO Abstract.
38. Nat Genet 201; 45:1439-45. reported in 2013 that some in some ER+ breast cancer patients who developed resistance to hormonal manipulation therapy, Estrogen Receptor dependent proliferation was identified in the absence of estrogen. ESR1 ligand binding domain mutations in hormone-resistant breast cancer.

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39. Avrum Bluming MD, Carol Tavris PhD. Estrogen Matters: Why Taking Hormones in Menopause Can Improve Women's Well-Being and Lengthen Their Lives -- Without Raising the Risk of Breast Cancer 1st Edition. Hachett Book Group 2018. Page 10.
40. Cancer Res. 1997 Nov 15; 57(22):4987-91. Dissociation between steroid receptor expression and cell proliferation in the human breast.
41. Avrum Bluming MD, Carol Tavris PhD. Estrogen Matters: Why Taking Hormones in Menopause Can Improve Women's Well-Being and Lengthen Their Lives -- Without Raising the Risk of Breast Cancer 1st Edition. Hachett Book Group 2018. Page 11.
42. Cancer Res 1997; 57:4987-91. Distinction between steroid receptor expression and cell proliferation in the human breast.
43. J Cell Biol. 2007 Jan 1; 176(1):19-26. Dissociation of estrogen receptor expression and in vivo stem cell activity in the mammary gland.
44. Climacteric. 2012 Dec; 15(6):531-7. doi: 10.3109/13697137.2012.678915. Chains of evidence, mosaics of data: does estrogen 'cause' breast cancer? How would we know?
45. Cancer Res 1990; 50:6441-8. Epidemiology, basic science, and the prevention of cancer: Implications for the future.
46. J Mammary Gland Biol Neoplasia. 2005 Jul; 10(3):261-72. Myoepithelial cells: their origin and function in breast morphogenesis and neoplasia.
47. Breast Cancer Research Published: 03 June 2005 Mammary epithelial cell transformation: insights from cell culture and mouse models.
48. Cancer Res 1991; 51:3626-9. Workshop report from the Division of Cancer Etiology, National Cancer Institute, National Institutes of Health: Current perspectives and future trends in hormonal carcinogenesis.
49. Nature Communications, 2017; 8 (1) DOI: 10.1038/s41467-017-01560-x. Construction of developmental lineage relationships in the mouse mammary gland by single-cell RNA profiling.
50. Cancer Res. 2005 Jul 1; 65(13):5506-11. Isolation and in vitro propagation of tumorigenic breast cancer cells with stem/progenitor cell properties.
51. Clin Med. 2019 Dec 29; 9(1). pii: E87. doi: 10.3390/jcm9010087. Lipid Droplets Define a Sub-Population of Breast Cancer Stem Cells.
52. Eur J Cancer. 2006 Jun; 42(9):1219-24. Breast cancer stem cells: an overview.

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53. Nature 2001; 414: 105–11. Stem cells, cancer, and cancer stem cells.
54. Science 2003; 301: 1308–10. Mutant stem cells may seed cancer.
55. Nat Rev Cancer 2003; 3: 895–902. Applying the principles of stem-cell biology to cancer.
56. J Cell Physiol. 2020 Jan 8. doi: 10.1002/jcp.29431. Suppressing the metastatic properties of the breast cancer cells using STAT3 decoy oligodeoxynucleotides: A promising approach for eradication of cancer cells by differentiation therapy.
57. Pharmacol Res. 2018;135:150–165. doi:10.1016/j.phrs.2018.08.006 Targeting molecular pathways in cancer stem cells by natural bioactive compounds.
58. Asian Pac J Cancer Prev. 2014;15(15):6219-25. Anti-metastasis activity of black rice anthocyanins against breast cancer: analyses using an ErbB2 positive breast cancer cell line and tumoral xenograft model.
59. Pharmacol Res. 2020 Jan 3:104628. doi: 10.1016/j.phrs.2020.104628. Long non-coding RNA CCAT2 promotes oncogenesis in triple negative breast cancer by regulating stemness of cancer cells.
60. Nat Med 1997; 3: 730–7. Human acute myeloid leukemia is organized as a hierarchy that originates from a primitive hematopoietic cell.
61. Cancer Res 2003; 63: 5821–8. Identification of a cancer stem cells in human brain tumors.
62. Proc Natl Acad Sci USA 2003; 100:3983–8. Prospective identification of tumorigenic breast cancer cells.
63. Cancer Lett. 2016 Sep 28; 380(1):263-71. doi: 10.1016/j.canlet.2015.10.033. The bone marrow niche in support of breast cancer dormancy.
64. Cancer Lett. 2016 Sep 28; 380(1):263-71. doi: 10.1016/j.canlet.2015.10.033. The bone marrow niche in support of breast cancer dormancy.
65. Int J Environ Res Public Health. 2019 Dec 27; 17(1). pii: E189. doi: 10.3390/ijerph17010189. Mapping the Human Exposome to Uncover the Causes of Breast Cancer.
66. Breast Cancer Res. 2020 Jan 7; 22(1):3. doi: 10.1186/s13058-019-1241-x. Anillin regulates breast cancer cell migration, growth, and metastasis by non-canonical mechanisms involving control of cell stemness and differentiation.
67. Climacteric. 2012 Dec; 15(6):531-7. doi: 10.3109/13697137.2012.678915. Epub 2012 May 31. Chains of evidence, mosaics of data: does estrogen 'cause' breast cancer? How would we know?
68. Ann Surg. 1986 Aug; 204(2):136-47. Treatment of primary breast cancer without mastectomy. The Los Angeles community experience and review of the literature.
69. Proc ASCO J Clin Oncol. 2008;15s:20693. Hormone Replacement Therapy (HRT) in women with previously treated breast cancer: Update XIV.
70. Cancer J. 2009 Mar-Apr; 15(2):93-104. doi: 10.1097/PPO.0b013e31819e332a. Hormone replacement therapy: real concerns and false alarms.
71. Climacteric. 2012 Apr;15(2):133-8. doi: 10.3109/13697137.2011.624215. What are the real risks for breast cancer?

72. Lancet 2004; 363:453-55. HABITS (hormonal replacement therapy after breast cancer – is it safe?) A randomized comparison: Trial stopped.
73. J Natl Cancer Inst. 2008; 100:475-82. Increased risk of recurrence after hormone replacement therapy in breast cancer survivors.
74. Avrum Bluming MD, Carol Tavris PhD. Estrogen Matters: Why Taking Hormones in Menopause Can Improve Women’s Well-Being and Lengthen Their Lives -- Without Raising the Risk of Breast Cancer 1st Edition. Hachett Book Group 2018. Page 187.
75. Medicine (Baltimore). 2019 Sep; 98(36):e15719. doi: 10.1097/MD.00000000000015719. Effect of age at first use of oral contraceptives on breast cancer risk: An updated meta-analysis.
76. Postgrad Med. 2009 Jan; 121(1):73-85. doi: 10.3810/pgm.2009.01.1949. The bioidentical hormone debate: are bioidentical hormones (estradiol, estriol, and progesterone) safer or more efficacious than commonly-used synthetic versions in hormone replacement therapy?
77. Berkson, DL. Safe Hormones, Smart Women. Awakened Medicine Press; 2010.
78. Lancet. 2004 Feb 7; 363(9407):453-5. HABITS (hormonal replacement therapy after breast cancer--is it safe?), a randomized comparison: trial stopped.
79. Lancet. 2004 Feb 7; 363(9407):410-1. Menopausal hormone therapy after breast cancer.
80. J Natl Cancer Inst. 2008 Apr 2; 100(7):475-82. doi: 10.1093/jnci/djn058. Increased risk of recurrence after hormone replacement therapy in breast cancer survivors.
81. Curr Opin Oncol. 2005;17:496. Hormone replacement therapy after cancers.
82. J Reprod Med Endocrinol. 2008;5:83. Hormone Replacement therapy after breast cancer.
83. J Fam Plann Reprod Health Care. 2011;37(2):103–109. doi:10.1136/jfprhc.2011.0078 Does hormone replacement therapy cause breast cancer? An application of causal principles to three studies: Part 1. The Collaborative Reanalysis.
84. Maturitas 2003;46:1-6. The Million Women Study and breast cancer.
85. Europ J Obstet Gynecol Reprod Biol 2004;113:3-5. The Million Women Study: a license to kill other investigations?
86. J Fam Plann Reprod Health Care. 2012;38:102-9. Does hormone replacement therapy cause breast cancer? An application of causal principles to three studies. Part 4. The Million Women Study.
87. Lancet 1997; 350:1047-59. Collaborative Group on Hormonal Factors in Breast Cancer. Breast cancer and hormone replacement therapy: Collaborative reanalysis of data from 51 epidemiological studies of 52,705 women with breast cancer and 108,411 women without breast cancer.
88. N Engl J Med 1995; 332:1589-93. The use of estrogens and progestins and the risk of breast cancer in postmenopausal women.
89. JAMA 2002; 288: 321-33. Risks and benefits of estrogen plus progestin in healthy postmenopausal women: Principal results from the Women's Health Initiative Randomized Controlled Trial.
90. J Natl Cancer Inst 2011;103:296-305. Breast Cancer risk in relation to the interval between menopause and starting hormone therapy.
91. Much Ado About Little Podcast Sept 22 2019 Response to the recent Lancet paper on hormone therapy and breast cancer risk Avrum Bluming, MD, and Carol Tavris, PhD
92. Menopause Int. 2012;18(1):33–35. doi:10.1258/mi.2012.012006 Million Women Study critique and subsequent publicity.

93. Kotsopoulos J. Menopausal hormones: definitive evidence for breast cancer. *Lancet* 2019;[http://dx.doi.org/10.1016/S0140-6736\(19\)32033-1](http://dx.doi.org/10.1016/S0140-6736(19)32033-1).
94. Much Ado About Little Podcast Sept 22 2019 Response to the recent Lancet paper on hormone therapy and breast cancer risk Avrum Bluming, MD, and Carol Tavris, PhD
95. Much Ado About Little Podcast Sept 22 2019 Response to the recent Lancet paper on hormone therapy and breast cancer risk Avrum Bluming, MD, and Carol Tavris, PhD
96. Letter from Dr. Philip DiSaia to Avrum Bluming, January 3, 2007. Quoted with his permission.
97. *Maturitas*. 2000 Jul 31; 36(1):1-17. Effects of estrogens and hormone replacement therapy on breast cancer risk and on efficacy of breast cancer therapies.
98. *Maturitas*. 2000 Jul 31; 36(1):1-17. Effects of estrogens and hormone replacement therapy on breast cancer risk and on efficacy of breast cancer therapies.
99. *Curr Opin Oncol*. 2005;17:496. Hormone replacement therapy after cancers.
100. *J Reprod Med Endocrinol*. 2008;5:83. Hormone Replacement therapy after breast cancer.
101. *J Clin Oncol*. 1999 May; 17(5):1482-7. Estrogen replacement therapy after localized breast cancer: clinical outcome of 319 women followed prospectively.
102. *Int J Fertil Womens Med*. 1999 Jun-Aug; 44(4):186-92. An experience with estrogen replacement therapy in breast cancer survivors.
103. *Menopause*. 2003 Jul-Aug; 10(4):277-85. Estrogen replacement therapy in breast cancer survivors: a matched-controlled series.
104. *Ann Surg Oncol*. 2001 Dec; 8(10):828-32. Estrogen replacement therapy after breast cancer: a 12-year follow-up
105. *J Natl Cancer Inst*. 2001 May 16; 93(10):754-62. Hormone replacement therapy after a diagnosis of breast cancer in relation to recurrence and mortality.
106. *Fam Pract*. 2002 Dec; 51(12):1056-62. Cancer recurrence and mortality in women using hormone replacement therapy: meta-analysis.
107. *Eur J Surg Oncol*. 1999 Apr; 25(2):146-51. A case-control study of hormone replacement therapy after primary surgical breast cancer treatment.
108. *Menopause* 1995;2; 67-72. A case-control study of combined continuous estrogen-progestin replacement therapy among women with a personal history of breast cancer.
109. *Climacteric*. 1998 Jun; 1(2):137-42. A cohort study of hormone replacement therapy given to women previously treated for breast cancer.
110. *Med J Aust*. 2002 Oct 7; 177(7):347-51. Hormone replacement therapy after a diagnosis of breast cancer: cancer recurrence and mortality.
111. *Proc ASCO*. 1999 (abstract):18; 2262. Hormone replacement therapy (HRT) in patients treated for breast cancer: Analysis of a cohort of 120 patients.
112. *Maturitas*. 2001 Sep 28; 39(3):217-25. A prospective study on women with a history of breast cancer and with or without estrogen replacement therapy.
113. *Oncology*. 2001; 60(3):199-206. Hormone replacement therapy after treatment of breast cancer: effects on postmenopausal symptoms, bone mineral density and recurrence rates.

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