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Education
PhD, Yale University; MS, University of Southern California; AB, Brown University

Current Research Interests

The focus of Dr. Bernstein's research is in the area of genetic and molecular epidemiology, particularly in the etiology of breast cancer and gliomas. She is also working on projects developing and validating biomarkers of breast cancer. The overarching theme is to understand cancer risk and progression in order to identify those at highest risk because of gene carrier status, environmental exposures, or a combination of both. Dr. Bernstein is the PI of the WECARE Study (Women's Environmental, Cancer, and Radiation Epidemiology) which examines genetic susceptibility and risk of contralateral breast cancer, especially relating to treatment. Current investigations involving this resource include studies of mutations in candidate genes, including ATM, BRCA1, BRCA2, Palb2, Chek2, 53BPI, MDC1, Rad50, and MRN genes, DNA repair pathways, tumor molecular biomarkers and risk of developing contralateral breast cancer. Also within the WECARE Study, Dr. Bernstein is examining whether mammographic density and other features found on the mammogram are important risk factor for contralateral breast cancer and is also currently leading an investigation focused on non-cancer outcomes following treatment for breast cancer. Lastly, with other WECARE Study investigators, she is in the field collecting the tumor tissue from the WECARE Study participants in order to examine the molecular pathoepidemiology of contralateral breast cancer. The WECARE Study is the basis for multiple current funded investigations, including using the GWAS data for a study using AI methods to identify novel genetic predisposition to radiation-associated breast cancer and one examining the genetic effects of chemotherapy and risk of contralateral breast cancer. Dr. Bernstein with Drs. Malcolm Pike, Elizabeth Morris, Janice Sung and others, are leading the tri-institutional IMAGINE (for IMAGINg and Epidemiology) Study examining background parenchymal enhancement (BPE) as seen on MRI as a biomarker of breast cancer risk. Dr. Bernstein continues to work with Drs. Melissa Bondy (Stanford University) and Jason Huse (MD Anderson) to examine tumor characteristics from the NIH-funded, multi-center GLIOGENE (Genetic Epidemiology of Glioma) Study of familial and sporadic glioma cases. She serves as a member of the U.S. EPA Radiation Advisory Committee, as a Scientific Advisory Board Member for the Radiation Effects Research Foundation (in Hiroshima) and as a Council Member of the National Committee Radiation Protection and Measurement and co-Chair of the Program Area Committee1 Epidemiology working group. She is Past President of the American College of Epidemiology and a member of the American Epidemiological Society. At MSK, Dr. Bernstein is proud to serves as co-Leader for the institution-wide Population Science Research Program.

Publications

Selected peer-reviewed publications:

Reiner AS, Robson ME, Mellemkjær L, Tischkowitz M, John EM, Lynch CF, Brooks JD, Boice JD, Knight JA, Teraoka SN, Liang X, Woods M, Shen R, Shore RE, Stram DO, Thomas DC, Malone KE, Bernstein L, Riaz N, Woodward W, Powell S, Goldgar D, Concannon P; WECARE Study Collaborative Group, Bernstein JL. Radiation Treatment, ATM, BRCA1/2, and CHEK2*1100delC Pathogenic Variants and Risk of Contralateral Breast Cancer. J Natl Cancer Inst. 2020 Dec 14;112(12):1275-1279. doi: 10.1093/jnci/djaa031. PMID: 32119081; PMCID: PMC7735763.

Watt GP, Thakran S, Sung JS, Jochelson MS, Lobbes MBI, Weinstein SP, Bradbury AR, Buys SS, Morris EA, Apte A, Patel P, Woods M, Liang X, Pike MC, Kontos D, Bernstein JL. Association of Breast Cancer Odds with Background Parenchymal Enhancement Quantified Using a Fully Automated Method at MRI: The IMAGINE Study. Radiology. 2023 Sep;308(3):e230367. doi: 10.1148/radiol.230367. PMID: 37750771.

Watt GP, Knight JA, Nguyen TL, Reiner AS, Malone KE, John EM, Lynch CF, Brooks JD, Woods M, Liang X, Bernstein L, Pike MC, Hopper JL, Bernstein JL. Association of contralateral breast cancer risk with mammographic density defined at higher-than-conventional intensity thresholds. Int J Cancer. 2022 Oct 15;151(8):1304-1309. doi: 10.1002/ijc.34001. Epub 2022 Apr 4. PMID: 35315524; PMCID: PMC9420749.

Bernstein JL, Haile RW, Stovall M, Boice JD Jr, Shore RE, Langholz B, Thomas DC, Bernstein L, Lynch CF, Olsen JH, Malone KE, Mellemkjaer L, Borresen-Dale AL, Rosenstein BS, Teraoka SN, Diep AT, Smith SA, Capanu M, Reiner AS, Liang X, Gatti RA, Concannon P; The WECARE Study Collaborative Group. Radiation exposure, the ATM Gene, and contralateral breast cancer in the women's environmental cancer and radiation epidemiology study. J Natl Cancer Inst 2010; 102(7):475-483. PMCID: PMC2902825.

Bernstein JL, Concannon P, Langholz B, Thompson WD, Bernstein L, Stovall M, Thomas DC; WECARE Study Collaborative Group. Multi-center screening of mutations in the ATM gene among women with breast cancer—the WECARE Study. Radiat Res 2005; 163:698-699. PMID: 16044499.

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My Projects

- Genetic Epidemiology of Glioma International Consortium (GLIOGENE)
- Women's Environmental Cancer and Radiation Epidemiology Study (WECARE)

Disclosures

Members of the MSK Community often work with pharmaceutical, device, biotechnology, and life sciences companies, and other organizations outside of MSK, to find safe and effective cancer treatments, to improve patient care, and to educate the health care community. These activities outside of MSK further our mission, provide productive collaborations, and promote the practical application of scientific discoveries.

MSK requires doctors, faculty members, and leaders to report (“disclose”) the relationships and financial interests they have with external entities. As a commitment to transparency with our community, we make that information available to the public. Not all disclosed interests and relationships present conflicts of interest. MSK reviews all disclosed interests and relationships to assess whether a conflict of interest exists and whether formal COI management is needed.

Jonine Lisa Bernstein discloses the following relationships and financial interests:

No disclosures meeting criteria for time period

The information published here is a complement to other publicly reported data and is for a specific annual disclosure period. There may be differences between information on this and other public sites as a result of different reporting periods and/or the various ways relationships and financial interests are categorized by organizations that publish such data.

This page and data include information for a specific MSK annual disclosure period (January 1, 2024 through disclosure submission in spring 2025). This data reflects interests that may or may not still exist. This data is updated annually.

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