

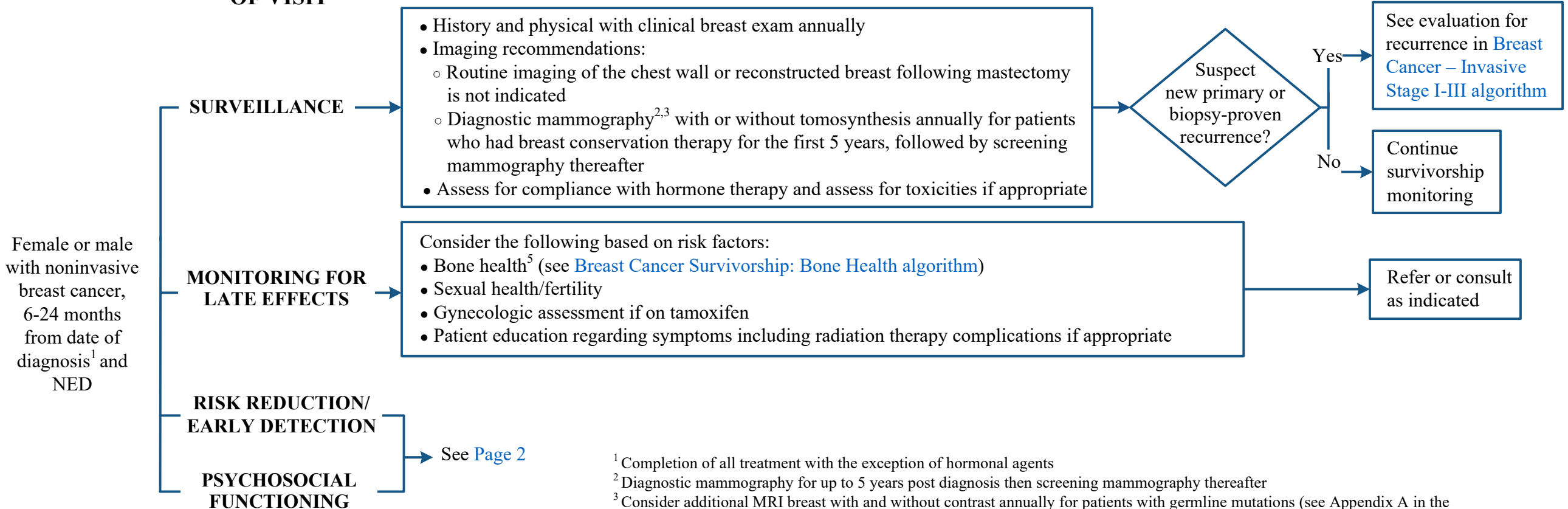
Disclaimer: This algorithm has been developed for MD Anderson using a multidisciplinary approach considering circumstances particular to MD Anderson’s specific patient population, services and structure, and clinical information. This is not intended to replace the independent medical or professional judgment of physicians or other health care providers in the context of individual clinical circumstances to determine a patient’s care. This algorithm should not be used to treat pregnant women.

Note: Mammograms may continue as long as the patient has a 10-year life expectancy and no co-morbidities that would limit the diagnostic evaluation or treatment of any identified problem.

ELIGIBILITY

CONCURRENT COMPONENTS OF VISIT

DISPOSITION



NED = no evidence of disease

USPSTF = United States Preventive Services Task Force

¹ Completion of all treatment with the exception of hormonal agents

² Diagnostic mammography for up to 5 years post diagnosis then screening mammography thereafter

³ Consider additional MRI breast with and without contrast annually for patients with germline mutations (see Appendix A in the [Breast Cancer Screening algorithm](#) for type of mutation and recommended screening interval) **or** diagnosis prior to age 50 years and have dense breasts³. Alternating mammography and MRI breast every 6 months is suggested if feasible.

Note: Additional imaging can be considered as delineated in the recommendation from the [American College of Radiology \(ACR\)](#) and the [American Cancer Society \(ACS\)](#). Note that the data supporting these guidelines are outdated (as per our internal analysis) and additional imaging is not recommended by the National Comprehensive Cancer Network (NCCN) survivorship guidelines.

⁴ Dense breast is defined as heterogeneously dense or extremely dense

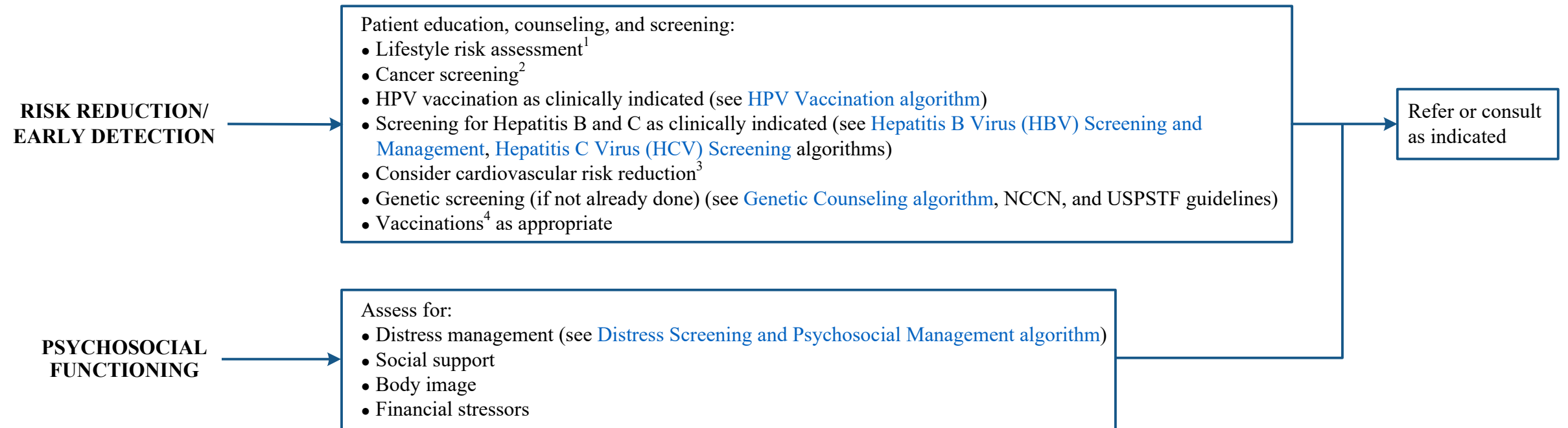
⁵ All postmenopausal women (especially those on aromatase inhibitors) and premenopausal women on ovarian suppression

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CONCURRENT COMPONENTS OF VISIT

DISPOSITION



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¹ See [Physical Activity](#), [Nutrition](#), and [Tobacco Cessation](#) algorithms; ongoing reassessment of lifestyle risks should be a part of routine clinical practice

² Includes [cervical](#) (if appropriate), [colorectal](#), [liver](#), [lung](#), [pancreatic](#), [prostate](#) (if appropriate), and [skin cancer screening](#)

³ Consider use of Vanderbilt’s [ABCDE’s approach to cardiovascular health](#)

⁴ Based on [Centers for Disease Control and Prevention \(CDC\) guidelines](#)

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SUGGESTED READINGS

- Barcenas, C. H., Shafae, M. N., Sinha, A. K., Raghavendra, A., Saigal, B. Murthy, R. K., ... Arun, B. (2018). Genetic counseling referral rates in long-term survivors of triple-negative breast cancer. *Journal of the National Comprehensive Cancer Network*, 16(5), 518-524. doi:10.6004/jnccn.2018.7002
- Centers for Disease Control and Prevention. (2022). *Recommended immunization schedule for adults aged 19 years or older, United States, 2022*. Retrieved from <https://www.cdc.gov/vaccines/schedules/hcp/imz/adult.html>
- Cho, N., Han, W., Han, B.-K., Bae, M.S., Ko, E. K., Nam, S.J., ... Moon, W.K. (2017). Breast cancer screening with mammography plus ultrasonography or magnetic resonance imaging in women 50 years or younger at diagnosis and treated with breast conservation therapy. *JAMA Oncology*, 3(11), 1495-1502. doi:10.1001/jamaoncol.2017.1256
- DeSantis, C. E., Lin, C. C., Mariotto, A. B., Siegel, R. L., Stein, K. D., Kramer, J. L., ... Jemal, A. (2014). Cancer treatment and survivorship statistics, 2014. *CA: A Cancer Journal for Clinicians*, 64(4), 252-271. doi:10.3322/caac.21235
- Fonseca, M. M., Alhassan, T., Nisha, Y., Koszycki, D., Schwarz, B. A., Segal, R., ... Seely, J. M. (2022). Randomized trial of surveillance with abbreviated MRI in women with a personal history of breast cancer - impact on patient anxiety and cancer detection. *BMC Cancer*, 22(1), 774. doi:10.1186/s12885-022-09792-x
- Ke, Y., Ng, T., & Chan, A. (2018). Survivorship care models for breast cancer, colorectal cancer, and adolescent and young adult (AYA) cancer survivors: A systematic review. *Supportive Care in Cancer*, 26(7), 2125-2141. doi:10.1007/s00520-018-4197-y
- Khatcheressian, J. L., Wolff, A. C., Smith, T. J., Grunfeld, E., Muss, H. B., Vogel, V. G., ... Davidson, N. E. (2006). American Society of Clinical Oncology 2006 update of the breast cancer follow-up and management guidelines in the adjuvant setting. *Journal of Clinical Oncology*, 24(31), 5091-5097. doi:10.1200/JCO.2006.08.8575
- Mayer, D. K., Nekhlyudov, L., Snyder, C. F., Merrill, J. K., Wollins, D. S., & Shulman, L. N. (2014). American society of clinical oncology clinical expert statement on cancer survivorship care planning. *Journal of Oncology Practice*, 10(6), 345-351. doi:10.1200/JOP.2014.001321
- Lawson, M. B., Herschorn, S. D., Sprague, B. L., Buist, D. S., Lee, S. J., Newell, M. S., ... Lee, J. M. (2022). Imaging Surveillance Options for Individuals With a Personal History of Breast Cancer: AJR Expert Panel Narrative Review. *American Journal of Roentgenology*, 219(6), 854-868. doi:10.2214/AJR.22.27635
- Mehta, T. S., Lourenco, A. P., Niell, B. L., Bennett, D. L., Brown, A., Chetlen, A., ... Moy, L. (2022). ACR Appropriateness Criteria® Imaging After Breast Surgery. *Journal of the American College of Radiology*, 19(11), S341-S356. doi:10.1016/j.jacr.2022.09.003.
- Monticciolo, D. L., Newell, M. S., Moy, L., Niell, B., Monsees, B., & Sickles, E. A. (2018). Breast cancer screening in women at higher-than-average risk: Recommendations from the ACR. *Journal of the American College of Radiology*, 15(3), 408-414. doi:10.1016/j.jacr.2017.11.034
- Moschetti, I., Cinquini, M., Lambertini, M., Levaggi, A., & Liberati, A. (2016). Follow-up strategies for women treated for early breast cancer. *The Cochrane Database of Systematic Reviews*, 2016(5), 1-50. doi:10.1002/14651858.CD001768.pub3
- National Comprehensive Cancer Network. (2022). Breast Cancer (NCCN Guideline Version 4.2022). Retrieved from https://www.nccn.org/professionals/physician_gls/pdf/breast.pdf
- Park, V. Y., Kim, M. J., Kim, G. R., & Yoon, J. H. (2021). Outcomes following negative screening MRI results in Korean women with a personal history of breast cancer: Implications for the next MRI interval. *Radiology*, 300(2), 303-311. doi:10.1148/radiol.2021204217

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SUGGESTED READINGS - continued

- Reid, D. M., Doughty, J., Eastell, R., Heys, S. D., Howell, A., McCloskey, E. V., ... Coleman, R. E. (2008). Guidance for the management of breast cancer treatment-induced bone loss: A consensus position statement from a UK expert group. *Cancer Treatment Reviews*, 34(1), S3-S18. doi:10.1016/j.ctrv.2008.03.007
- Runowicz, C. D., Leach, C. R., Henry, N. L., Henry, K. S., Mackey, H. T., Cowens-Alvarado, R. L., ... Ganz, P. A. (2016). American Cancer Society/American Society of Clinical Oncology breast cancer survivorship care guideline. *Journal of Clinical Oncology*, 34(6), 611-635. doi:10.1200/JCO.2015.64.3809
- Runowicz, C. D., Leach, C. R., Henry, N. L., Henry, K. S., Mackey, H. T., Cowens-Alvarado, R. L., ... Ganz, P. A. (2016). American Cancer Society/American Society of Clinical Oncology breast cancer survivorship care guideline. *CA: A Cancer Journal for Clinicians*, 66(1), 43-73. doi:10.3322/caac.21319
- Saslow, D., Boetes, C., Burke, W., Harms, S., Leach, M. O., Lehman, C. D., ... American Cancer Society Breast Cancer Advisory Group. (2007). American Cancer Society guidelines for breast screening with MRI as an adjunct to mammography. *CA: A Cancer Journal for Clinicians*, 57(2), 75-89. doi:10.3322/canjclin.57.2.75
- The American Society of Breast Surgeons. (2019). *Position Statement on Screening Mammography*. Retrieved from <https://www.breastsurgeons.org/docs/statements/Position-Statement-on-Screening-Mammography.pdf>
- Vanderbilt Cardio-Oncology Program. (2017). *Know Your ABCDE's*. Retrieved from <http://www.cardioonc.org/2017/08/29/know-your-abcs/>
- Visvanathan, K., Chlebowski, R. T., Hurley, P., Col, N. F., Ropka, M., Collyar, D., ... Lippman, S. M. (2009). American society of clinical oncology clinical practice guideline update on the use of pharmacologic interventions including tamoxifen, raloxifene, and aromatase inhibition for breast cancer risk reduction. *Journal of Clinical Oncology*, 27(19), 3235-3258. doi:10.1200/JCO.2008.20.5179
- Winer, E. P., Hudis, C., Burstein, H. J., Wolff, A. C., Pritchard, K. I., Ingle, J. N., ... Somerfield, M. R. (2005). American society of clinical oncology technology assessment on the use of aromatase inhibitors as adjuvant therapy for postmenopausal women with hormone receptor-positive breast cancer: Status report 2004. *Journal of Clinical Oncology*, 23(3), 619-629. doi:10.1200/JCO.2005.09.121

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DEVELOPMENT CREDITS

This survivorship algorithm is based on majority expert opinion of the Breast Cancer Survivorship work group at the University of Texas MD Anderson Cancer Center. It was developed using a multidisciplinary approach that included input from the following:

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