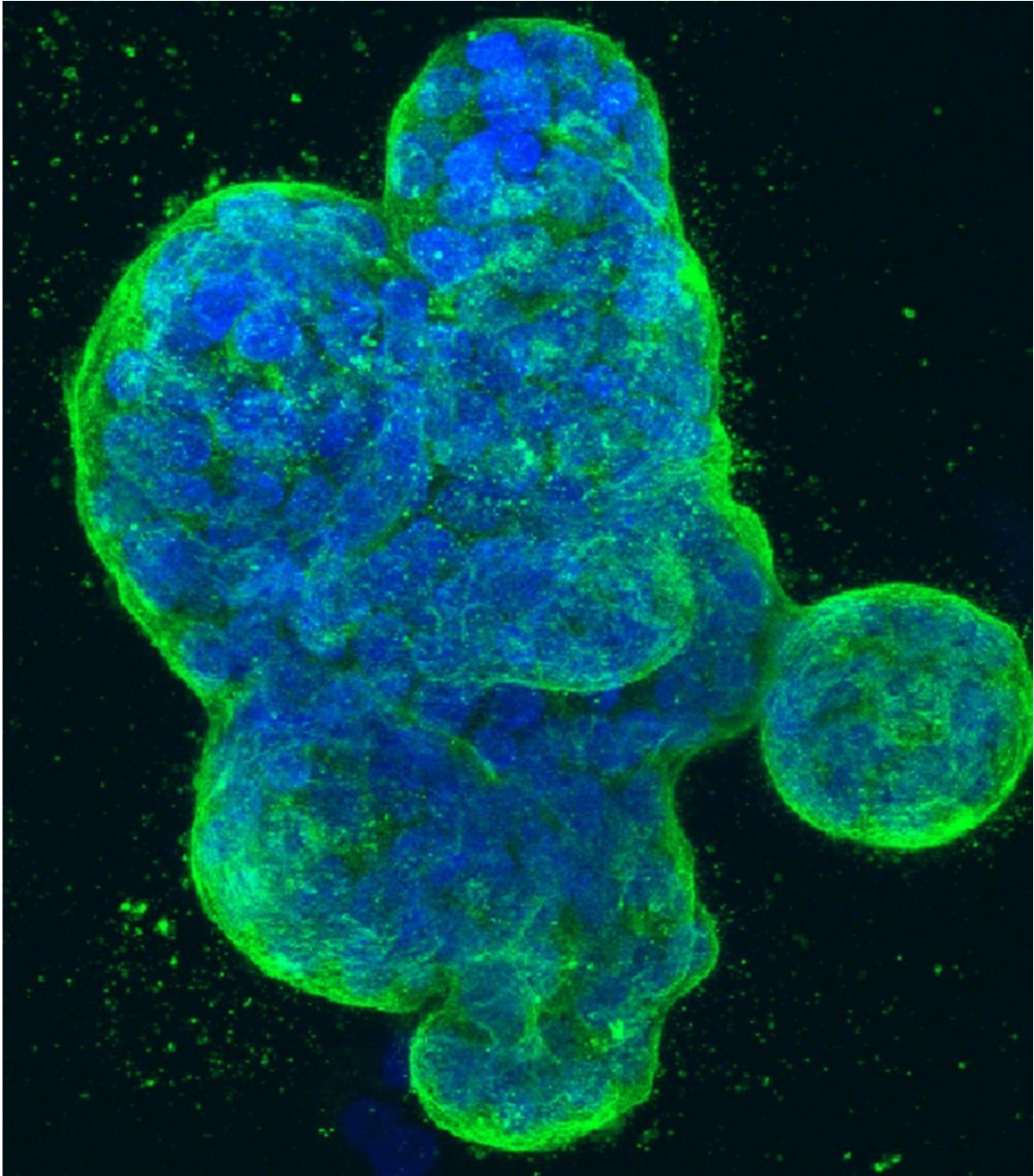


Early screening may reduce breast cancer deaths by more than half in childhood cancer survivors

July 7 2020



Three-dimensional culture of human breast cancer cells, with DNA stained blue and a protein in the cell surface membrane stained green. Image created in 2014 by Tom Misteli, Ph.D., and Karen Meaburn, Ph.D. at the NIH IRP.

Early initiation (at ages 25 to 30) of annual breast cancer screening with breast magnetic resonance imaging (MRI), with or without mammography, might reduce breast cancer mortality by half or more in female survivors of childhood cancer previously exposed to chest radiation. These findings highlight the importance of MRI in reducing deaths from breast cancer in this population. A comparative modeling study is published in *Annals of Internal Medicine*.

Female survivors of childhood cancer who have been exposed to chest radiation are at significantly increased risk for [breast cancer](#). Surveillance with annual mammography and MRI is recommended for this population, yet benefits, harms, and [costs](#) are uncertain.

Researchers from Boston Children's Hospital used data from the Childhood Cancer Survivor Study and two breast cancer simulation models from the Collaborative Intervention and Surveillance Modeling Network (CISNET) to estimate the benefits, harms, and cost-effectiveness of breast cancer screening strategies in childhood cancer survivors. They found that compared with no screening, starting screening at age 25 with annual mammography with MRI averted the most deaths (56 percent to 71 percent) and annual MRI (without mammography) averted 56 percent to 62 percent of deaths. When costs and quality of life were considered, beginning screening at age 30 was preferred given commonly cited cost-effectiveness thresholds.

According to the researchers, these findings underscore the importance of MRI in screening and suggest identifying effective policies and interventions to reduce barriers to screening should be priorities to ensure comprehensive and coordinated care for these high-risk survivors.

More information: *Annals of Internal Medicine* (2020).
<https://www.acpjournals.org/doi/10.7326/M19-3481>

Provided by American College of Physicians

Citation: Early screening may reduce breast cancer deaths by more than half in childhood cancer survivors (2020, July 7) retrieved 5 April 2023 from

<https://medicalxpress.com/news/2020-07-early-screening-breast-cancer-deaths.html>

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