

Comparing Genetic Testing Completion among Breast Cancer Patients When Ordered by a Surgeon Versus a Genetic Specialist

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Introduction. Genetic testing is critical in the management of breast cancer, guiding surgical decision-making, informing therapy selection, and identifying at-risk relatives. Despite its clinical importance, completion of genetic testing remains suboptimal. This study evaluated whether completion of genetic testing differed when testing was offered directly by a breast surgeon in clinic compared with the traditional referral to an external genetic specialist.

Methods. This retrospective cohort study included women aged 18 to 89 years diagnosed with breast cancer who presented to a breast surgeon in Wichita, Kansas, between 2017 and 2023. Patients seen in 2020-2021 were excluded due to COVID-19-related disruptions. From 2017-2019, patients were referred to a genetic specialist, whereas from 2022-2023, testing was offered directly by the surgeon in clinic. The primary outcome was completion of genetic testing.

Results. Among 732 eligible patients, 62% (n = 454) completed genetic testing. Patients who completed testing were younger (mean age 61 vs. 70 years, p <0.001) and more likely to report a family history of cancer (69.4% vs. 43.8%, p <0.001). Among those tested, 4.9% had a pathogenic mutation, most commonly in *BRCA2*, *ATM*, or *CHEK2*. Patient characteristics, including age and family history, did not differ between provider groups. Genetic testing completion was higher when testing was offered in clinic by the surgeon (72.6%) than through referral-based testing (55.2%; p <0.001).

Conclusions. Offering genetic testing directly within the breast surgeon's clinic was associated with significantly higher completion rates compared with referral-based testing. Integrating genetic testing into surgical consultations may reduce logistical barriers and enable earlier use of genetic information in treatment planning.