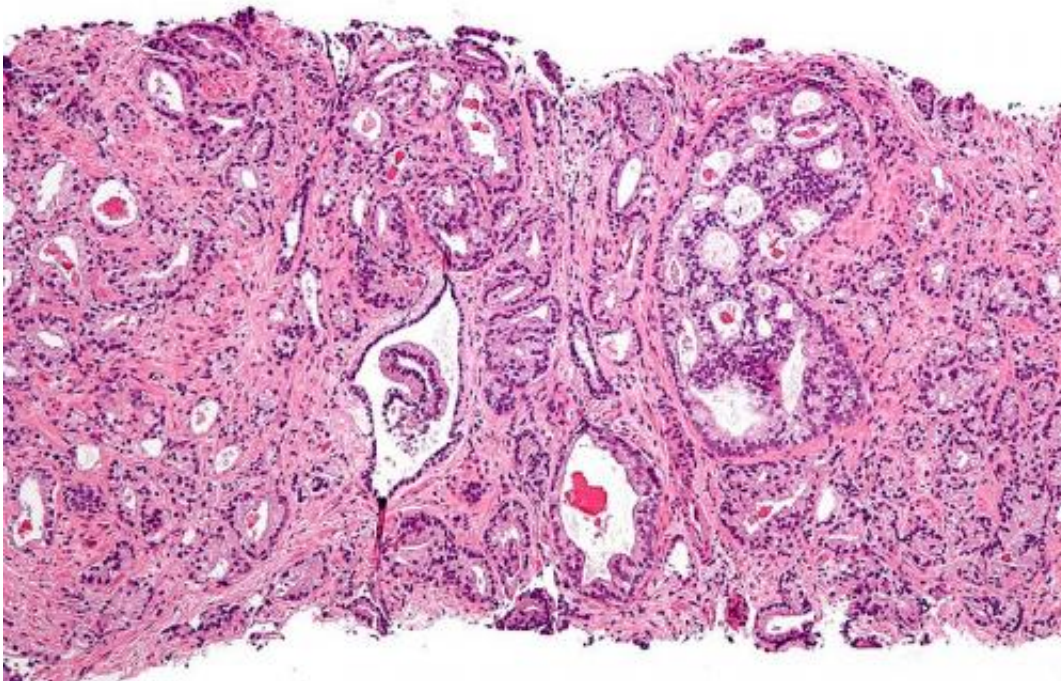


Recommendations for genetic counseling and genetic testing for hereditary prostate cancer

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Micrograph showing prostatic acinar adenocarcinoma (the most common form of prostate cancer) Credit: Wikipedia, [CC BY-SA 3.0](https://creativecommons.org/licenses/by-sa/3.0/)

To date, there have been few recommendations to guide physicians about when to offer men genetic consultation for prostate cancer risk. Now, an international and inter-specialty panel of experts convened at the Sidney Kimmel Cancer Center (SKCC) at Thomas Jefferson University have developed a comprehensive set of recommendations. This consensus statement, published December 13th in the *Journal of*

Clinical Oncology, will help physicians and stakeholders make sense of a rapidly evolving field of practice.

"There is increasing recognition that some [prostate cancers](#) can be inherited. Genetic testing could provide men and their families with information about [cancer](#) risk, inform screening, and guide better treatment planning and options," said lead author Veda N. Giri, MD, Director of Cancer Risk Assessment and Clinical Cancer Genetics in the Department of Medical Oncology and member of the Prostate Cancer Program at the SKCC.

Research has shown that a subset of prostate cancers, about 10-15 percent of all prostate cancer, are inherited and that at least some of the genes that confer the inherited risk are known and testable. However, clinical practice including referrals, genetic counseling, genetic testing, and genetically-informed management needs to encompass research advances and increasingly available commercial genetic tests. The goal of the consensus statement was to provide a comprehensive and balanced clinical approach to genetic referrals and testing relevant to clinical cancer genetics specialists, genetic counselors, urologists, oncologists, and primary care providers to provide men with an opportunity to make an informed decision regarding genetic testing, screening, and personalized treatment.

"With a multitude of genetic tests on the market already, the technology provides more information right now, than we can act upon in the clinic," said senior author Leonard Gomella, MD, Chair of the Department of Urology at Jefferson and Clinical Director of the Sidney Kimmel Cancer Center Network. "We convened a consensus panel at Jefferson to fill the gap in guidelines and develop best practices for when and how to use these genetic panels, and how to help patients navigate the information they receive from them."

While genomic testing of prostate cancer is performed to help optimize and personalize treatment, genetic testing reveals information that can impact entire families, older and younger generations alike. "A genetic [test](#) can reveal mutations that could impact a son, daughter, sister, brother or other relatives and reveal higher risks of cancer across a family, which is why men need to understand the implications of genetic testing. A key factor in making an informed decision is receiving appropriate genetic counseling prior to genetic testing," said Dr. Giri. "An important evolving area is precision medicine where tumor sequencing to identify targetable mutations for treatment may also provide a clue to inherited prostate cancer, again raising the question of how best to provide genetic counseling in this setting," added Dr. Giri.

"In order to build informed and thoughtful guidelines, we invited over 70 experts not only from the fields including urology, genetics, and medical oncology, but also from fields unrelated to prostate cancer, but with long track records and experience with genetic testing and counseling," said prostate cancer researcher Karen Knudsen, PhD, Director of the SKCC, and Co-Chair with Drs. Giri and Gomella, of the Consensus Panel. For example gynecological oncology and breast cancer experts were in attendance as well as patient advocates and experts in bioethics and health disparities who allowed the group to keep the patient experience top of mind. "Being only one of eight formal prostate cancer programs of excellence within NCI-designated cancer centers, the SKCC was an ideal location for this summit," said Dr. Knudsen.

The group's key findings and recommendations:

- Urologists, who are typically the first to diagnose a man with prostate cancer, should perform a more thorough family history intake that includes cancers on the mother's as well as father's side in order to assess whether a man should be referred for genetic counseling and testing. Physicians should consider

prostate, breast, ovarian, colorectal, pancreatic cancers, and melanoma for intake of family history to determine inherited [prostate cancer risk](#). "Without this first step of thorough screening, it's difficult to capture men who should be referred for genetic counseling and testing, who may need to be monitored more closely, and perhaps need to start prostate cancer screenings earlier than the general guidelines suggest as a preventative measure. Furthermore, some men may need to be considered for more aggressive treatment earlier on," said Dr. Gomella.

- Systems to streamline referrals to genetic counselors are needed so they can educate men and their families about genetic risks for cancer, and help suggest genetic testing for family members who may also be at increased risk.
- While current commercially available genetic tests specifically for inherited prostate cancer risk can cover anywhere from 10-14 genes (and even larger cancer gene panels are available), clinical actionability for [prostate cancer screening](#) and management are relevant for a subset of these genes. For example, men with prostate cancer with inherited mutations in the BRCA2, BRCA1, and ATM genes may respond to PARP inhibitors, especially if prostate cancer has progressed to metastasis and is resistant to initial treatments. Therefore, the consensus panel agreed with other national organizations that men with [metastatic prostate cancer](#) should be considered for [genetic counseling](#) and genetic testing to determine if their prostate cancer was inherited. The consensus statement also expanded considerations of prostate cancer screening and management of early-stage disease based on genetic test results, which is a gap in current guidelines.
- Areas in critical need of further research identified by the consensus panel include genetic testing in African American males, greater understanding of the genetic basis for aggressive prostate cancer, and health economic impact of [genetic testing](#)

for [prostate](#) cancer.

More information: Giri VN, et al., "Role of Genetic Testing for Inherited Prostate Cancer Risk: Philadelphia Prostate Cancer Consensus Conference 2017. *J Clin Oncol*, 2017.

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