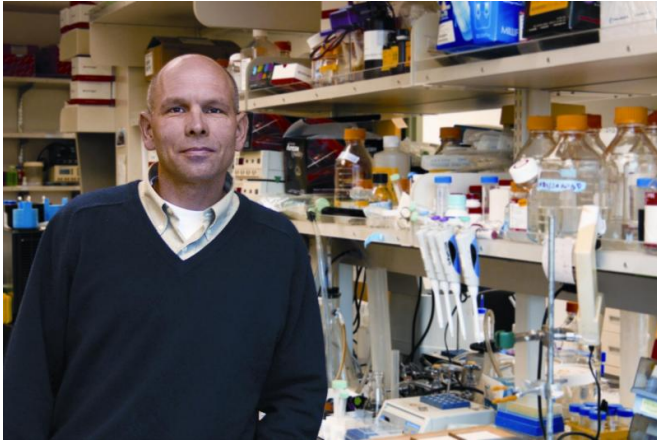


Precision oncology could be tailor-made for metastatic prostate cancer

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Senior and corresponding author Dr. Peter S. Nelson is a prostate cancer researcher at Fred Hutchinson Cancer Research Center in Seattle. Credit: Fred Hutch file

Metastatic prostate cancer, where better therapeutic strategies are desperately needed, appears to be tailor-made for precision oncology, according to a new study by researchers at Fred Hutchinson Cancer Research Center in Seattle. They found that a single metastasis within an individual patient can provide consistent molecular information to help guide therapy in metastatic prostate cancer.

The research showed that though they are very complex, [prostate cancer metastases](#) within an individual patient are strikingly similar in their molecular characteristics, while metastases from different patients have very dissimilar characteristics. This suggests that patients could benefit from individualized therapy and that a single biopsy will likely provide enough information to guide that therapy.

Evidence has been growing that [molecular characteristics](#) of original or primary tumors, which often take decades to develop, can exhibit

substantial heterogeneity, or variation in the composition of cancer-causing genes in different areas within the tumors. In contrast, scientists have little information about the diversity to be found in metastases, the tumors that arise from cells that have broken free and traveled far from the first tumor. When cancer spreads, it often relocates to several distant sites within an individual, leading to the question of whether obtaining a sample of one metastatic site would provide information that is relevant for guiding therapy of the other sites of spread. Uniformity among metastases within a patient would ensure that therapies designed to target a specific metastasis would likely treat all of a patient's metastases.

More information: "Substantial interindividual and limited intraindividual genomic diversity among tumors from men with metastatic prostate cancer," *Nature Medicine* (2016). [DOI: 10.1038/nm.4053](https://doi.org/10.1038/nm.4053)

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