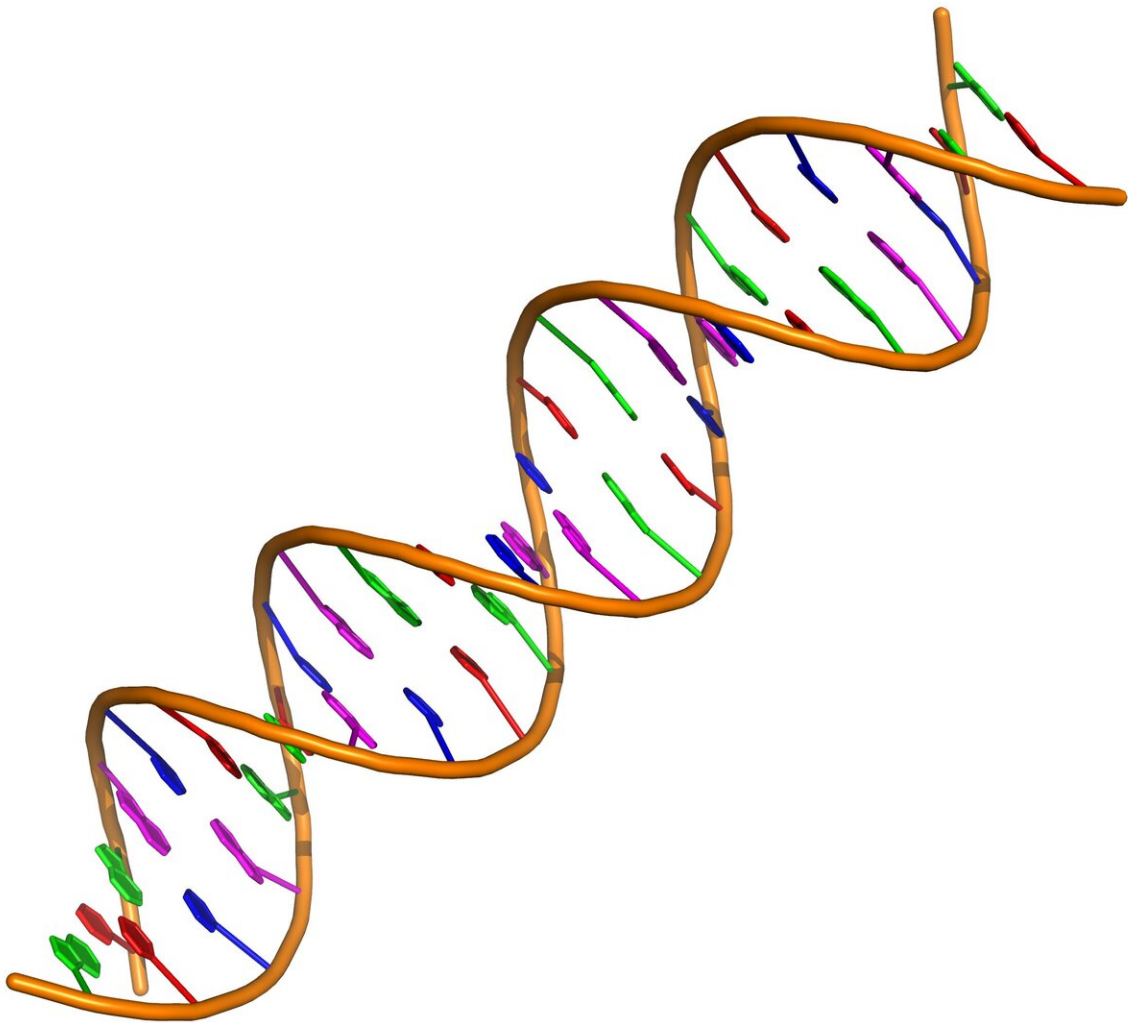


The use of DNA biomarkers for detecting early-stage HPV-positive oropharynx cancers has limitations

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A double stranded DNA fragment. Credit: Vcpmartin/Wikimedia/ CC BY-SA 4.0

Oropharynx cancers caused by human papillomavirus (HPV) have risen dramatically over the years, superseding tobacco use and heavy drinking as the primary driver of new cases. Fortunately, HPV-positive oropharynx cancers have an improved survival rate compared to other head and neck cancers, allowing for less intensive treatment options, especially if diagnosed at early stages.

One promising biomarker for early diagnosis and predicting reoccurrence, circulating tumor HPV DNA (ctHPV DNA), is found in the blood of almost 90% of patients with HPV-positive oropharynx cancer and can be detected using commercially available blood assays measuring HPV DNA from [tumor cells](#) (TTMV-HPV DNA).

However, in a study of 110 HPV-positive oropharynx cancer patients, investigators from Brigham and Women's Hospital found that TTMV-HPV DNA levels are linked to the presence of cancer in the [lymph nodes](#) and are often undetectable in patients without neck masses. This has a tremendous impact on how the test is interpreted and applied for early-stage disease, and may mean it is not as effective for screening and [early diagnosis](#) of this increasingly common disease.

"ctHPV DNA testing is emerging as a powerful tool in the diagnosis, treatment, and post-treatment surveillance of HPV-positive oropharynx cancer," said first author Eleni M. Rettig, MD, of Brigham and Women's Hospital Division of Otolaryngology-Head and Neck Surgery and Dana-Farber Cancer Institute. Rettig is also an affiliated faculty member in the Center for Surgery and Public Health. "It's increasingly critical to understand both the strengths and limitations of this test."

The study is published in *JAMA Otolaryngology–Head & Neck Surgery*.

More information: Eleni M. Rettig et al, Association of Pretreatment Circulating Tumor Tissue–Modified Viral HPV DNA With Clinicopathologic Factors in HPV-Positive Oropharyngeal Cancer, *JAMA Otolaryngology–Head & Neck Surgery* (2022). [DOI: 10.1001/jamaoto.2022.3282](https://doi.org/10.1001/jamaoto.2022.3282)

Provided by Brigham and Women's Hospital

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