

# In head and neck cancer, surgeons need solid answers about tumor recurrence

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Partnering with head and neck surgeons, pathologists at Dartmouth Hitchcock Medical Center's Norris Cotton Cancer Center developed a new use for an old test to determine if a patient's cancer is recurring, or if the biopsy shows benign inflammation of mucosal tissues. In *Pathology - Research and Practice*, lead author Candice C. Black, DO explained how her team confirmed the utility of ProExC, an existing antibody cocktail commonly used for pathology tests of the uterine cervix. The team's goal remained sorting out problems presented by the frequently equivocal pathology results when surgeons need to determine the difference between true pre-neoplasia and merely inflammatory/reactive biopsies.

"In reality, the biopsies we receive from head and neck [patients](#) are often tiny and poorly oriented. Particularly in smokers and other post-treatment patients, [inflammation](#) may cause reactive epithelial atypia that is difficult to distinguish from dysplasia," reported Dr. Black. "This new use of the ProExC antibody cocktail allows us to provide the head and neck surgeons with key information about which patients have post-therapy complications versus those with true tumor recurrence."

The World Health Organization (WHO) provides two systems for classifying dysplasia, and both have been criticized as being too subjective and failing to predict disease progression. A spectrum of histologic aberrations in mucosal membranes can mimic dysplasia, as well as neo-plastic cytologic and architectural changes. This is the first attempt to use ProExC as a diagnostic adjunct in the detection of head

and neck mucosal biopsies.

Pathologists used 64 biopsies from the Dartmouth archives to setup groups of patients who had and had not progressed to cancer, and found statistically significant differences between the progression cases and the controls in terms of the stain scores using ProExC. "The surgeons wanted to know if the mucosa was neoplastic or just inflamed and reactive. The old-school answer of 'atypia' simply isn't sufficient to make decisions about therapeutic interventions," described Black.

Going forward, Dr. Black's Dartmouth team is gathering prospective cases and continuing to test ProExC.

**More information:** [www.sciencedirect.com/science/ ...  
ii/S0344033814000430](https://www.sciencedirect.com/science/article/pii/S0344033814000430)

Provided by The Geisel School of Medicine at Dartmouth

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