

New imaging guidelines for head and neck cancers, a step toward practice change

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Newly [published](#) research in *The Lancet Oncology* lays the foundation for many patients with head and neck cancers to be treated with tailored therapies that are less invasive and to avoid major, potentially

debilitating surgeries.

This step toward a major shift in practice is prompted by new imaging guidelines established in the study. As a result, imaging techniques like CT, PET and MRI can be better utilized to determine the aggressiveness of the [cancer](#) and point patients toward radiation therapy instead of [surgery](#) in certain cases. Christina Henson, M.D., a University of Oklahoma faculty member, is the lead author of the pivotal study, which involved head and [neck](#) cancer experts from 29 countries around the world.

"The impetus for the study is that today, approximately 80% of head and neck cancers are associated with an HPV infection rather than smoking and [tobacco use](#)," said Henson, an OU Health radiation oncologist and associate professor in the OU College of Medicine.

"Because HPV-related head and neck cancers respond much better to treatment than tobacco-related cancers do, many patients can undergo minimally invasive surgeries or receive radiation treatment. Such 'organ-sparing' therapies will keep them from a complex surgery in which they might lose their voice box or part of their tongue."

For appropriate therapy to occur, however, the oncology team needs to determine whether the patient has an extranodal extension—when the cancer has grown outside the [lymph nodes](#) and into surrounding tissue. Extranodal extension signals an aggressive type of cancer that requires [radiation therapy](#) and chemotherapy rather than surgery.

If a patient undergoes surgery and extranodal extension is found in the lymph nodes that are removed, the patient then needs radiation and chemotherapy after surgery—three separate forms of treatment with three separate sets of side effects. For this reason, the oncology team tries to avoid surgery on patients with extranodal extension because they

are better treated with radiation and chemotherapy.

If physicians had a way of identifying extranodal extension through an imaging test prior to surgery, patients could avoid unnecessary surgical procedures and go straight to radiation and chemotherapy. The new imaging guidelines will fill that gap in knowledge.

"Until now, there have been no criteria by which to interpret the presence or absence of extranodal extension on imaging," Henson said. "Radiologists have seen what they believe to be extranodal extension, but they have been hesitant to call it as such because there have been no criteria to follow. But now we have established guidelines that will give radiologists confidence to make that call so that patients can be appropriately treated."

Henson, who often sees patients along with surgeons, said people would be relieved if told they will be treated with two forms of treatment rather than three, with equivalent outcomes and fewer side effects.

"Radiation therapy certainly has its own side effects, but it is significant to provide a treatment that will save people from having issues with their swallowing and their voice down the road," she said.

The research was conducted according to the Delphi consensus in which questions were presented to experts for their feedback on the details of defining and identifying extranodal extension. Questions that didn't result in agreement were revisited until all nuances had been addressed.

Now that the guidelines have been published, Henson and the study team are taking the next steps toward incorporating them into practice. Radiologists are familiarizing themselves with the guidelines and testing the new approach to continue establishing its reliability. The results of that effort will also be published.

In addition, a related study is ongoing to determine which imaging techniques are most accurate for identifying extranodal extension. Thus far, Henson said, a combination of CT and MRI scans appear to provide the highest accuracy.

The guidelines also will likely be used to inform the next edition of staging protocols for head and neck cancers, Henson said. Head and neck cancer staging criteria were last updated in 2018.

This study was part of a series of four articles published in the current edition of *The Lancet Oncology*. Another study followed the same Delphi process to refine existing guidelines that pathologists follow for interpreting extranodal extension. The remaining two studies established a common "language" for defining and measuring recurrent/metastatic head and neck cancers and curative [head](#) and neck cancers. The results are especially important for future clinical trials.

"Both of the last two studies were looking at endpoint definitions—for example, when there is a clinical trial, what is it measuring and how is survival defined? It is crucial to have standardized definitions of endpoints we're using in clinical trials so that when we use a term, we are all meaning the same thing," Henson said.

More information: Christina Henson et al, Criteria for the diagnosis of extranodal extension detected on radiological imaging in head and neck cancer: Head and Neck Cancer International Group consensus recommendations, *The Lancet Oncology* (2024). [DOI: 10.1016/S1470-2045\(24\)00066-4](https://doi.org/10.1016/S1470-2045(24)00066-4)

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