

SPEAKER 1: There's a number of different types of cancers that arise within the nasal cavity and sinus region. And they can invade into the bone that separates the brain from the face. And historically, and even currently, we found that these are very challenging cancers to treat effectively. The surgeons have a hard time completely removing all the cancer because they're so close to the eyes and the nerves and the brain and large blood vessels in that area. And radiation oncologists have a hard time treating them with radiation therapy, because we're limited in the dose of radiation we could administer without causing harm to the eyes and the nerves and the brain.

And with this new type of radiation therapy, the proton beam therapy being more accurate and precise and more targeted, our hypothesis was that a higher dose could be given with protons without giving a higher dose or causing harm to the normal organs. And those patients would have fewer recurrences and would live longer, more likely to be cured.

So to test this hypothesis, we did what's called a meta-analysis, or systematic review, where we reviewed over 1,400 patients that had been treated either with the conventional radiation treatments, including state-of-the-art intensity modulated radiation therapy, or a proton beam therapy. And we just studied patients that had been treated since 1990, so we knew that they were treated with the best possible surgery and radiation and chemotherapy treatments available at this time.

And with the help of our colleagues from the Center of the Science of Health Care Delivery, they performed some very rigorous and sophisticated statistical analysis on these 1,400 patients, and found that those that had been treated with proton beam therapy did, in fact, have fewer recurrences of the cancer. And that led to a significantly longer survival, when compared to patients treated with conventional treatments. So it seems to provide some very strong evidence that our hypothesis is correct, that proton beam therapy is a more effective type of treatment for these particular types of cancers that arise in the nasal cavity and sinus and skull base area.