

## What is pseudoprogression?

Pseudoprogression—apparent tumor size increase after treatment—is typically seen on repeat imaging used to assess tumor response to immune checkpoint inhibitors. However, later imaging may show that the cancer has disappeared. Pseudoprogression is unique to immune checkpoint inhibitors and is similar to what sometimes is seen when brain cancers are treated with radiation or chemotherapy. Pseudoprogression is important to understand because stopping treatment too early can result in failure to control cancer or achieve a cure.

The mechanism behind pseudoprogression isn't clearly understood, but one theory suggests that immune cells (such as lymphocytes) invade the tumor, making it appear larger. Clinical assessment is critical to determining treatment success. If the patient is feeling better and cancer symptoms appear to be gone, the first scan after treatment may be showing pseudoprogression. No standard recommendations exist for follow-up, but some oncologists will rescan a patient in 4 to 8 weeks to evaluate tumor growth. The patient will continue treatment during this time; a true imaging response may take up to 12 weeks, so treatment should be based on assessing the patient's functional status.