

How Long Do Lung Cancer Patients Need to Stay on Immunotherapy?

Responders may be able to discontinue immune checkpoint inhibitors after two years with no decrease in survival.

June 29, 2023 By [Liz Highleyman](#)

People who respond well to first-line immunotherapy for [non-small-cell lung cancer \(NSCLC\)](#) may be able to stop treatment after two years rather than continuing indefinitely, according to research presented at the [2023 American Society of Clinical Oncology \(ASCO\) Annual Meeting](#) and published in [JAMA Oncology](#).

The study found that among patients without disease progression who discontinued immunotherapy at two years, overall survival rates were similar to those of people who continued treatment indefinitely.

“We hope this data provides reassurance that stopping treatment at two years is a valid treatment strategy that does not seem to compromise overall survival,” lead study author Lova Sun, MD, of the Perelman School of Medicine at the University of Pennsylvania said in a [press release](#).

Five immune checkpoint inhibitors are approved for NSCLC: Imfinzi (durvalumab), Keytruda (pembrolizumab), Libtayo (cemiplimab), Opdivo (nivolumab) and Tecentriq (atezolizumab). While [immunotherapy](#) has revolutionized cancer treatment, it does not work for all patients, and in some cases, it can stop working.

The optimal duration of checkpoint inhibitor immunotherapy is unknown. Pivotal clinical trials typically tested these medications for up to two years, but in practice, some patients continue to use them until they experience disease progression or unacceptable adverse effects. This uncertainty could lead some people to stay on treatment longer than necessary, incurring added cost and enduring prolonged side effects and the inconvenience of repeated infusions.

Sun and colleagues performed a retrospective cohort study of adult patients in the Flatiron Health electronic health record database. They were diagnosed with NSCLC between 2016 and 2020 and received first-line immune checkpoint treatment at academic medical centers and in community settings, either alone or in combination with chemotherapy. Follow-up continued through August 2022.

A total of 1,091 patients were still on treatment at two years, after excluding those who experienced disease progression or died. About half were women, most were white and the median age was 69 years. Of these, 113 people stopped therapy at that point (the fixed-duration group) while 593 continued treatment beyond two years (the indefinite-duration group). About one in five patients discontinued immunotherapy at two years in the absence of disease progression.

After two more years of follow-up, the overall survival rates were 79% in the fixed-duration group and 81% in the indefinite-duration group—not a statistically significant difference.

The researchers also looked at a subset of 11 patients in the fixed-duration group who went on to experience disease progression and restarted a checkpoint inhibitor alone or in combination with chemotherapy after at least a month off treatment. Some of them responded, with a median progress-free survival time of 8.1 months, and more than a third were still on treatment at the end of the analysis.

“Ultimately, the field is still on the leading edge of determining the most appropriate duration for these immunotherapies that have been so effective for patients with advanced lung cancer,” said senior author Charu Aggarwal, MD, MPH, also at the University of Pennsylvania. “This study provides important data that we hope will help patients feel less worried about potential risks of coming off therapy and more confident if they decide to discontinue treatment after two years.”

While retrospective data has its limitations, a prospective randomized clinical trial comparing immunotherapy durations would be lengthy and difficult to conduct, Howard (Jack) West, MD, of City of Hope Comprehensive Cancer Center, pointed out in an [accompanying editor’s note](#).

“In the meantime, the perfect should not be the enemy of the good,” he wrote. “[T]hese data may provide reassurance to us and patients that discontinuing treatment at two years can confer the same overall survival as extended treatment with lower risk of toxic effects, less time in treatment for patients and considerably lower costs for our health care system.”

Click here to ready the [study abstract](#).

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