Below is a synopsis of important, recently published research supporting adoption of comprehensive biomarker testing in non-small cell lung cancer (NSCLC). LUNGevity maintains a website that collates the most high impact papers and provides brief synopses for busy providers and hospital administrators.

View more research on the LUNGevity Clinical Value of Biomarker Testing webpage

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Turnaround Time of Comprehensive Genomic Profiling in Lung Cancer and Other Solid Tumors: How Long Does It Actually Take to Get the Biomarker Test Results That Drive Cancer Treatment?

Fox, et al. *JCO Oncol Pract.* 2026

A large retrospective analysis examined turnaround time (TAT) for comprehensive genomic profiling (CGP), the biomarker testing that drives treatment decisions for cancer patients, across over 271,000 solid tumor samples from more than 5,000 clinical sites in the United States. The results show that the biggest bottleneck is not the laboratory itself, but the time it takes clinicians to order the test. Despite seven years of data and advances in molecular testing, ordering TAT showed no improvement whatsoever.

Overall, TAT from biopsy to results improved modestly over the study period, dropping from a median of 43 days in 2018 to 32 days in 2024, driven almost entirely by the faster laboratory time. However, the time from biopsy to when a clinician ordered the test, the largest and most variable component of TAT, showed no improvement in the seven-year period. In 2024, the fastest-performing sites completed the full process in a median of 19.5 days, while the slowest took 38.9 days, a gap of nearly three weeks driven almost entirely by ordering delays. For lung cancer, where essentially all patients with metastatic disease require this testing to select first-line therapy, the stakes are especially high: with approximately 40% of patients deceasing by 90 days, **this delay can mean the difference between receiving precision therapy or never getting one at all. This is not an administrative inconvenience; it is a clinical crisis.**

These findings expose a systemic and largely preventable failure in cancer care: while laboratories have meaningfully optimized their processes, clinicians and institutions have made no measurable progress in the TAT after biopsy, and the gap between the best and worst performing sites remains unacceptably wide. Every week of delay increases the pressure to begin empiric treatment without biomarker guidance, risking toxicity, suboptimal therapy, and worse outcomes. Institutions must move beyond passive, oncologist-dependent ordering and implement systematic reflex testing protocols that trigger CGP at the time of biopsy, independent of when a patient first sees an oncologist. The laboratory has done its part; it is now time for the clinical and institutional community to do theirs.

The call to action is clear: Institutions must implement systematic, proactive strategies, such as reflex testing at time of biopsy, to eliminate the preventable weeks lost before the laboratory ever receives a sample.

Read the full research study: Turnaround Time of Comprehensive Genomic Profiling in Lung Cancer and Other Solid Tumors

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