

The Benefits of Comprehensive Biomarker Testing for Your Lung Cancer Patients

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Consider performing comprehensive biomarker testing at any point before initiating a new treatment for your patients with non-small cell lung cancer (NSCLC), including upon diagnosis, recurrence or progression. Included below is more information on comprehensive biomarker testing for patients and providers.



What is comprehensive biomarker testing?

- There are two types of biomarkers commonly used to tailor treatment for NSCLC:
 - Driver mutations: mutations that can cause a patient's cancer to grow. Testing for these mutations can help determine whether certain types of targeted therapies may work well to treat their cancer.
 - Immunotherapy biomarkers: these biomarkers show how a cancer interacts with the body's immune system, and testing for them can help determine if certain types of immunotherapies may work well to treat a patient's cancer
- Currently, the National Comprehensive Cancer Network guidelines recommend all patients with NSCLC undergo biomarker testing of ALK, BRAF V600E, EGFR including TKI-sensitive EGFR mutations and EGFR Exon 20 insertions, HER2, KRAS G12C, MET exon 14 skipping, NTRK, RET, and ROS1.^{1,2} In addition, PD-L1 testing is recommended for immunotherapy.



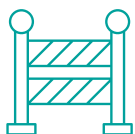
What are the benefits of comprehensive biomarker testing for my patients?

- Lung cancer patients may experience better outcomes when they are treated with appropriate therapies, such as better quality of life and decreased mortality from NSCLC.³
- Many patients have NSCLC that tests positive for driver mutations, making their lung cancer eligible to be treated with a targeted therapy – a treatment matched to a specific biomarker within the tumor or immunotherapy.⁴
- Comprehensive biomarker testing can provide the information you need to ensure patients avoid initiating a suboptimal treatment or sequence of therapies.⁵
 - Biomarkers can reveal the specifics of a patient's cancer, including how well their body may respond to certain types of treatment.⁶
- Determining a patient's biomarker status can also help identify whether they are eligible for investigational treatment options through clinical trials.



When should I recommend comprehensive biomarker testing?

- It is important to wait for all comprehensive biomarker testing results before recommending the appropriate treatment for your NSCLC patients.
- Testing should be an ongoing part of treatment discussions with your patient. Any decision to test for biomarkers should be made together with your patient, and depends on many factors, including their: histology and stage of NSCLC, current treatment plan, and overall health.
- With a rapidly expanding number of biomarker-driven therapies for NSCLC approved by the U.S. Food and Drug Administration and scientific breakthroughs on the horizon for all types of lung cancer, there has never been a more important time to talk to patients about comprehensive biomarker testing.⁷



What are the current barriers to comprehensive biomarker testing?

- Despite increasing survival rates among individuals with lung cancer in the U.S., many oncologists are not conducting guideline-recommended comprehensive biomarker testing to inform treatment decisions for their patients.⁸
 - Recommendations differ according to the histology and stage of NSCLC.
- Other barriers can include factors such as: inadequate tumor material in the biopsy sample, operational challenges involved in tissue stewardship and handling/processing, variability in insurance coverage for testing, increased costs for patients due to insufficient reimbursement payments for performing biomarker testing, and challenges for providers to stay current with testing guideline updates as testing and treatment continue to evolve.⁹
 - Medicare, many private insurers, and some Medicaid plans cover the cost of biomarker testing. Patients should contact their health insurance provider for a better understanding of how much testing will cost. There are also financial assistance programs to help cover the cost of testing.
- Many of these barriers can be addressed with improved awareness and the standardization of processes, according to a global survey from the International Association for the Study of Lung Cancer, which notes the need for continuous education and regular updates to guidelines as the testing landscape evolves.¹⁰

¹ NCCN Clinical Practice Guidelines in Oncology. Non-Small Cell Lung Cancer, Version 5.2021. https://www.nccn.org/professionals/physician_gls/pdf/nscl.pdf. Accessed October 1, 2021.

² NCCN Clinical Guidelines for Patients. Non-Small Cell Lung Cancer, Version 4. 2021. <https://www.nccn.org/guidelines-detail?category=patients&id=23>. Accessed November 16, 2021.

³ Howlader N, et al. *N Engl J Med*. 2020;383(7):640-649. doi:10.1056/NEJMoal916623.

⁴ Yuan, M, et al. *Sig Transduct Target Ther* 2019;4:61. doi:10.1038/s41392-019-0099-9.

⁵ Schoenfeld AJ, et al. *Ann Oncol*. 2019;30(5):839-844. doi:10.1093/annonc/mdz077.

⁶ Next Generation Sequencing: Policy Brief, 2020. American Society of Clinical Oncology. <https://www.asco.org/sites/new-www.asco.org/files/content-files/advocacy-and-policy/documents/2020-NGS-Brief.pdf>. Accessed October 1, 2021.

⁷ Lyman GH, et al. *J Clin Oncol*. 2016;34(17):2061-2066. doi:10.1200/JCO.2016.67.3160.

⁸ Gierman HJ, et al. *J Clin Oncol*. 2019;37(15):1585-1585. doi:10.1200/JCO.2019.37.15_suppl.1585.

⁹ John A, et al. *Adv Ther*. 2021;38(3):1552-1566. doi:10.1007/s12325-020-01617-2.

¹⁰ Smeltzer MP, et al. *J Thorac Oncol*. 2020;15(9):1434-1448. doi:10.1016/j.jtho.2020.05.002.

Know your biomarkers. Know your options.

There's never been a better time to talk about comprehensive biomarker testing. Encourage your NSCLC patients to find helpful resources and learn more at www.NoOneMissed.org