

## Patient selection for EGFR and ALK testing in NSCLC

Would you order the following genetic mutation assays in these patient subgroups?

Percent responding “yes”:

Patient subgroup	EGFR mutation assay	ALK mutation assay
Nonsquamous		
Nonsmoker/oligosmoker	93%	94%
Smoker	75%	75%
Squamous		
Nonsmoker/oligosmoker	29%	27%
Smoker	19%	17%

### EDITOR'S COMMENTS

The explosion of research documenting the presence of specific tumor mutations and the benefit of related targeted therapies has made genomic testing an essential aspect of lung cancer management. However, the practical application of available assays, specifically EGFR and ALK, remains in question, as reflected in this survey. Dr Ramalingam tests all nonsquamous metastatic tumors, but 25% of oncologists would not test a smoker with an adenocarcinoma. Dr Wakelee performs both EGFR and ALK testing on tumors from all patients, similar to the ER/HER2 model in breast cancer. However, less than 20% of oncologists test smokers with squamous disease.

### SELECT REFERENCES WITH LINKS

Ellison G et al. **EGFR mutation testing in lung cancer: A review of available methods and their use for analysis of tumour tissue and cytology samples.** *J Clin Pathol* 2013;66(2):79-89. [Abstract](#)

Lindeman NI et al. **Molecular testing guideline for selection of lung cancer patients for EGFR and ALK tyrosine kinase inhibitors: Guideline from the College of American Pathologists, International Association for the Study of Lung Cancer, and Association for Molecular Pathology.** *J Thorac Oncol* 2013;8(7):823-59. [Abstract](#)

Pailler E et al. **Detection of circulating tumor cells harboring a unique ALK rearrangement in ALK-positive non-small-cell lung cancer.** *J Clin Oncol* 2013;31(18):2273-81. [Abstract](#)