

Lung cancer in younger adults is rare—but distinct.

Lung cancer is often thought of as a disease affecting older adults, yet a growing number of cases are being diagnosed in younger people with no known risk factors. Research shows lung cancer diagnosed in younger adults may be clinically and biologically different from lung cancer diagnosed later in life:⁴

Key Statistics

1 in 10

lung cancer diagnoses occur in people age 50 and younger.^{1,2}

Up to 84%

of tumors in young people with lung cancer contain targetable genetic mutations.

These mutations, often involving genes such as EGFR and ALK that can be targeted with specific treatments called precision medicine, means they may have better outcomes.³

Under age 40

lung cancer diagnosis have several distinct characteristics and occur more often in women.²

What makes young lung cancer different?

Research shows lung cancer diagnosed in younger adults has several distinct characteristics.

Compared with typical lung cancer cases, young-onset disease is more likely to:

Be diagnosed at a later stage

Symptoms may not immediately raise suspicion of lung cancer in younger adults.⁴

Affect a higher proportion of women

Women represent a larger share of lung cancer cases among younger patients compared with older populations.⁴

Be adenocarcinoma

Adenocarcinoma accounts for a higher proportion of lung cancers diagnosed in younger adults.⁴

Contain targetable driver mutations

Younger patients are more likely to have tumors with actionable genomic alterations, including EGFR and ALK mutations.⁴

Why young lung cancer may be diagnosed later⁴

Screening eligibility limitations

Current lung cancer screening guidelines generally begin at age 50 and focus on individuals with a significant smoking history.

Symptoms may be attributed to other causes

Symptoms such as cough, fatigue, or chest discomfort may initially be attributed to common respiratory illnesses or other conditions.

Lower clinical suspicion

Because lung cancer is uncommon in younger adults, clinicians may be less likely to initially suspect the disease.

Emerging Research

New research findings by GO2 suggest environmental and lifestyle factors may play a role in lung cancer in younger adults without typical risk factors.⁵

Key Insights

Diet & exposure

Foods linked to pesticide exposure may be connected to certain tumor types.

Hormones

Higher oral contraceptive use raises questions about hormone-related risks.

New causes under study

Lung cancer in younger adults may develop through different pathways, pointing to possible preventable risk factors.

Why this matters

Recognizing the distinct characteristics of young-onset lung cancer is critical to:

- Improve awareness among clinicians and patients
- Support timely diagnosis
- Ensure access to genomic testing and targeted therapies
- Expand research into causes and risk factors affecting younger adults and save lives

(1) MD Anderson Cancer Center. *Young-Onset Lung Cancer Program*. [cited May 19 2026].

(2) American Cancer Society. *Key Statistics for Lung Cancer*. January 29, 2024. January 13 2026 [cited May 19 2026].

(3) Gittlitz BJ, Novello S, Vavalà T, Bittoni M, Sable-Hunt A, Pavlick D, Hsu R, Park SL, Chen R, Cooke M, Moore A, Schrock AB, Schiller JH, Addario BJ, Oxnard GR. *The Genomics of Young Lung Cancer: Comprehensive Tissue Genomic Analysis in Patients Under 40 With Lung Cancer*. *JTO Clin Res Rep*. 2021 May 24;2(7):100194. doi: 10.1016/j.jtocrr.2021.100194. PMID: 34590039; PMCID: PMC8474359.

(4) Antonoff MB, Phillips L, Singhi EK. *Understanding Lung Cancer in Younger People*. *JAMA Oncol*. 2025 Nov 1;11(11):1400. doi: 10.1001/jamaoncol.2025.3320. PMID: 40996757.

(5) Sarah D. Gorbato, Marisa A. Bittoni, Anna H. Wu, Allison Harper, Kotait Virginia, Narjust Florez, Barbara J. Gittlitz, Jorge J. Nieva. *Abstract 5039: Dietary patterns in young lung cancer: mutation-specific environmental associations*. *Cancer Res* 1 April 2026; 86 (7_Supplement): 5039.