

Not all lung cancer is a result of smoking

Dr Anthony Cunliffe, National Lead GP Adviser at Macmillan Cancer Support

Lung cancer is England's biggest cause of cancer deaths; around 28,100 people die from lung cancer in England each year.¹ Out of this total, it is estimated that 6000 people who have never-smoked die of lung cancer each year – greater than the numbers of people who die of cervical cancer, lymphoma, leukaemia, and ovarian cancer.² Smoking remains the largest modifiable risk factor for lung cancer but if considered as a separate entity lung cancer in never-smokers is the eighth most common cause of cancer related death in UK and the seventh most prevalent cancer in the world.^{3,4}

While the proportion of people who smoking is declining, the relative number of never-smokers developing lung cancer is increasing and there is also evidence that the absolute numbers and rate of lung cancer in never-smokers is increasing.⁵ Despite this, most people who have never smoked do not realise they may still be at risk of developing the disease and, unfortunately, stigma around a diagnosis of lung cancer is often experienced by patients.

'Never-smoker' generally refers to patients who have smoked less than one hundred cigarettes in their lifetime. A higher proportion of lung cancers in women occur amongst never-smokers compared to men. Current estimates of risk factors in the UK include second-hand smoke, radon exposure, occupational carcinogen exposure and outdoor pollution. Other studies suggest

previous lung disease, family history, alcohol intake, hormonal factors, and infectious diseases such as HPV and pneumonia.

Diagnosis can be a challenge for general practitioners as awareness of the risk in never smokers can be low. However, it is crucial that as primary care clinicians we still consider a diagnosis of lung cancer even when a patient has never smoked. Over 57% of lung cancer patients in the UK are diagnosed at stage 3 or 4,⁶ too late for curative treatment and data from patient organisations suggests that in the never-smoking population this rises to nearly 90%.⁷

Symptoms of lung cancer are the same in never smokers and so we need to be alert to these and have a low threshold for investigation and not be falsely reassured by a person presenting as a non-smoker.

References

1. Public Health England 2018 <https://www.gov.uk/government/statistics/cancer-registration-statistics-cancer-mortality-in-england-2018>
2. Cancer Statistics for the UK. Cancer Research UK. www.cancerresearchuk.org/health-professional/cancer-statistics-for-the-uk
3. Cancer Research UK. Cancer Mortality for Common Cancers. www.cancerresearchuk.org/health-professional/cancer-statistics/mortality/common-cancers-compared#heading=Zero
4. Subramanian, J, Govindan, R. Lung cancer in never smokers: a review. *J Clin Oncol* 2007; 25: 561–570
5. Couraud, S, Zalzman, G, Milleron, B, Morin, F, Souquet, P-J. Lung cancer in never smokers – a review. *Eur J Cancer* 2012; 48: 1299–1311
6. Royal College of Pathologists, National Lung Cancer Audit, annual report 2018 (for the audit period 2017), May 2019
7. EGFR Positive UK, ALK Positive UK Member Survey 2020

A personal story



I'm Wendy and I live in Southampton with my husband and two daughters. I have been living with lung cancer for almost five years since my diagnosis in January 2017.

I experienced severe chest pains 36 hours before flying off to New York for a family holiday in December 2016 when I was 49. A chest X-Ray at A&E revealed an 'area of concern'. Within 10 hours of returning from New York (we had an amazing holiday!) I was being told that there was a possibility that I had lung cancer – this is where my cancer journey started.

The next few weeks felt like a roller coaster of tests. Surgery was the first course of action, but unfortunately it only resulted in an investigation where it was discovered that the cancer was stuck to my windpipe and had spread to the lining of my chest wall and lymph nodes. Then I was diagnosed with EGFR mutation positive lung cancer,

Why me? I don't smoke, I don't drink much, I eat a very healthy diet, I'm not overweight, I'm not very fit, but I'm certainly active. It's not fair, what on earth could I have done to prevent this!

Treatment started with afatinib. I experienced substantial tumour reduction over the first 6 months. I had minor side effects but had a long-term infection in my nose that caused a permanent nasal perforation. At this point I switched to osimertinib as it became apparent that it was available to me privately. The cancer still continues to be stable and I have almost no side effects.

I am grateful that I am very well and have no pain. My cancer and medication don't limit me other than reducing my energy. I continue to work part time as the technician in the Design Faculty of a local secondary school, where my colleagues are very supportive. I spend my time gardening, sewing, knitting, creating textile art. I love coastal walks, gigs, cinema, theatre and exhibitions. I've never had so many holidays! I make every effort to do the things I want to do, not just talk about them

I fully intend to be a 'radical survivor', I'm going to live into my 80's!