Background Routine screening for lung cancer in high risk groups (characterised by age and smoking history) is recommended in the USA and may be implemented elsewhere. It is unclear whether being screened for lung cancer promotes smoking cessation or conversely provides false reassurance and a ‘license to smoke’. This study aimed to understand how experiences of lung cancer screening influence individual decision making about smoking.

Methods Thirty one people in Scotland, aged 51–74, took part in semi-structured interviews. They had been screened with the EarlyCDT-Lung Test (13 positive result; 18 negative) as part of the Early Cancer Detection Test–Lung Cancer Scotland (ECLS) Study and were long-term smokers when screened. Verbatim transcripts were analysed using thematic analysis.

Results Interpretations of test results was a key theme, but were often inaccurate, for example a negative result interpreted as an ‘all-clear’ from lung cancer and a positive result as meaning lung cancer will definitely develop. There was no clear pattern in decisions made about smoking in response to positive or negative test results. Emotional response to those interpretations was an overarching theme in decisions about smoking. Emotions included fear, shock, upset, worry, anxiety, guilt, relief, reassurance and indifference. Other themes included changes in perceived risk of smoking-related disease, a feeling that now is the time to stop smoking, interpersonal family influences and avoidance of thoughts about smoking. Of those who had stopped smoking, some cited screening experiences as the sole reason and some cited screening along with other coinciding factors. Cues to change were experienced at different stages of the screening process and not always immediately following a test result. Some participants indicated they underwent screening in order to try and stop smoking. Others expressed little or no desire to stop. In general, lung cancer screening was experienced as a unique opportunity, which sometimes prompted successful or unsuccessful attempts to stop smoking.

Conclusion Lung cancer screening can be a ‘reachable moment’ for smoking behaviour change. Emotional responses to test results, which can be misinterpreted, were an important theme but behavioural responses varied according to the individual. Findings should be considered within the context of a group of predominantly life-long smokers undergoing a novel blood screening test, who might already have increased motivation to stop smoking. Lung cancer screening presents an opportunity to engage high risk smokers in cessation support but our findings suggest such support may need to be available flexibly to be most effective.

In collaboration with the ECLS study team