NICE National Institute for Health and Care Excellence

NICE guideline

Lung cancer: diagnosis and management

NICE guideline
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Your responsibility

The recommendations in this guideline represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, professionals and practitioners are expected to take this guideline fully into account, alongside the individual needs, preferences and values of their patients or the people using their service. It is not mandatory to apply the recommendations, and the guideline does not override the responsibility to make decisions appropriate to the circumstances of the individual, in consultation with them and their families and carers or guardian.

All problems (adverse events) related to a medicine or medical device used for treatment or in a procedure should be reported to the Medicines and Healthcare products Regulatory Agency using the Yellow Card Scheme.

Local commissioners and providers of healthcare have a responsibility to enable the guideline to be applied when individual professionals and people using services wish to use it. They should do so in the context of local and national priorities for funding and developing services, and in light of their duties to have due regard to the need to eliminate unlawful discrimination, to advance equality of opportunity and to reduce health inequalities. Nothing in this guideline should be interpreted in a way that would be inconsistent with complying with those duties.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should assess and reduce the environmental impact of implementing NICE recommendations wherever possible.

Contents

This guideline replaces CG121.

This guideline is the basis of QS17.

Overview

This guideline covers diagnosing and managing non-small-cell and small-cell lung cancer. It aims to improve outcomes for people by ensuring that they get the most effective tests and treatments, and that they have access to suitable palliative care and follow-up.

Terminology used for cancer staging classification changes over time. The guideline recommendations were developed using the 7th edition of the American Joint Committee on Cancer (AJCC) staging system. For the AJCC staging system used in a NICE technology appraisal, see the relevant technology appraisal guidance.

This guideline refers to NHS England commissioning policies. In Wales and Northern Ireland, follow Welsh or Northern Irish commissioning positions if applicable.

In **February 2026**, we added links to relevant technology appraisal guidance in the section on management. This is to provide easy access to relevant guidance at the right point in the guideline only and is not a change in practice. We also simplified the guideline by removing recommendations on general principles of care that are covered in other NICE guidelines.

Who is it for?

- Healthcare professionals
- Commissioners and providers
- People with lung cancer and their families and carers

Using this guideline

People have the right to be involved in discussions and make informed decisions about their care, as described in NICE's information on making decisions about your care.

Healthcare professionals should follow our general guidelines for people delivering care:

- Patient experience in adult NHS services
- Shared decision making
- Tobacco: preventing uptake, promoting quitting and treating dependence

For guidance on referral, see the recommendations on referral for suspected lung cancer in the NICE guideline on suspected cancer.

Making decisions using NICE guidelines explains how we use words to show the strength (or certainty) of our recommendations, and has information about prescribing medicines (including off-label use), professional guidelines, standards and laws (including on consent and mental capacity), and safeguarding.

Support from clinical nurse specialists

1.1.1 Ensure that a lung cancer clinical nurse specialist is available at all stages of care to support people and (as appropriate) their family members or carers. **[2011]**

Diagnosis and staging

1.2 Effectiveness of diagnostic and staging investigations

Terminology used for cancer staging classification changes over time. The guideline recommendations were developed using the 7th edition of the American Joint Committee on Cancer (AJCC) staging system.

1.2.1 Only use sputum cytology for investigation in people with suspected lung cancer who have centrally placed nodules or masses and who decline or cannot tolerate bronchoscopy or other invasive tests. **[2005]**

1.2.2 Offer people with known or suspected lung cancer a contrast-enhanced chest CT scan to further the diagnosis and stage the disease. Include the liver, adrenals and lower neck in the scan. Use contrast medium with caution in people with known renal impairment. **[2005, amended 2019]**

1.2.3 When assessing mediastinal and chest wall invasion:

- be aware that CT alone may not be reliable
- consider other techniques such as ultrasound if there is doubt
- be aware that surgical assessment may be necessary if there are no contraindications to resection. **[2005]**

1.2.4 Ensure that all people with lung cancer who could potentially have treatment with curative intent are offered positron emission tomography CT (PET-CT) before treatment. **[2011]**

1.2.5 Every cancer alliance should have a system of rapid access to PET-CT scanning for people who are eligible for this. **[2005, amended 2019]**

1.2.6 Do not routinely use MRI to assess the stage of the primary tumour (T-stage) in

non-small-cell lung cancer (NSCLC). **[2005]**

1.2.7 Use MRI when necessary to assess the extent of disease, for people with superior sulcus tumours. **[2005]**

1.2.8 Offer endobronchial ultrasound-guided transbronchial needle aspiration (EBUS-TBNA) for biopsy of paratracheal and peri-bronchial intra-parenchymal lung lesions. **[2011]**

1.2.9 Every cancer alliance should have at least 1 centre with EBUS or endoscopic ultrasound (EUS), or both, to ensure timely access. **[2011]**

1.2.10 Audit the local test performance of EBUS-TBNA and endoscopic ultrasound-guided fine-needle aspiration (EUS-FNA). **[2011, amended 2019]**

1.2.11 When taking samples, ensure they are adequate (without unacceptable risk to the person) to permit pathological diagnosis, including tumour subtyping and assessment of molecular markers. **[2011, amended 2019]**

1.2.12 See the National Genomics Test Directory for guidance on next-generation sequencing (NGS) panels to guide treatment. **[2019, amended 2026]**

Why the committee made the recommendations

Effectiveness of diagnostic and staging investigations

Clinical audit is an important tool for maintaining high standards in the use of endobronchial ultrasound-guided transbronchial needle aspiration (EBUS-TBNA) and endoscopic ultrasound-guided fine-needle aspiration (EUS-FNA). This is consistent with the British Thoracic Society guideline and quality standards.

EBUS-TBNA and EUS-FNA

The recommendations cover:

- initial invasive investigations for people with an intermediate probability of mediastinal malignancy
- subsequent investigations for people with a high probability of mediastinal malignancy, when neck ultrasound and biopsy are negative.

In these circumstances, when compared with alternative investigations, EBUS-TBNA and EUS-FNA:

- produce a diagnosis and stage faster than bronchoscopy or CT-guided biopsy
- are more acceptable to patients than surgery
- reduce the need for further investigations and hospital visits compared with bronchoscopy.

Surgical mediastinal staging

There is evidence that surgical staging is useful when EBUS-TBNA and/or EUS-FNA are negative but clinical suspicion of mediastinal malignancy is high. While there are potential harms from the invasive nature of surgical staging, there is no evidence that these outweigh the benefits in this population.

Procedures that were not recommended

Transthoracic needle biopsy, bronchoscopy and non-ultrasound-guided TBNA are no longer recommended for staging lung cancer in intrathoracic lymph nodes because:

- bronchoscopy and non-ultrasound-guided TBNA are unlikely to reach the minimum sensitivity required by the British Thoracic quality standards **and**
- they may discourage people from having more effective procedures (such as EBUS-TBNA) and subsequent investigations.

The word 'fibreoptic' has been removed because bronchoscopy can be fibreoptic, video or hybrid.

How the recommendations might affect practice

The recommendations on PET-CT reflect current practice, so will not incur an extra cost.

The recommendations on EBUS-TBNA and EUS-FNA will reinforce best practice and result in a more streamlined diagnostic service with more timely diagnosis and staging.

The surgical mediastinal staging recommendation will also reinforce best practice and restrict this procedure to people most likely to benefit.

Full details of the evidence and the committee's discussion are in evidence review A: investigations for staging the mediastinum.

Sequence of investigations

1.2.13 Choose investigations that give the most information about diagnosis and staging with the least risk to the person. Think carefully before performing a test that gives only diagnostic pathology when information on staging is also needed to guide treatment. **[2011]**

1.2.14 Perform contrast-enhanced CT of the chest, liver adrenals and lower neck before any biopsy procedure. **[2005, amended 2019]**

Peripheral primary tumour

1.2.15 When choosing diagnostic and staging investigations, take into account that some people with lung cancer will not be well enough for treatment with curative intent. **[2011, amended 2019]**

1.2.16 Offer image-guided biopsy to people with peripheral lung lesions when treatment can be planned based on this test. **[2011, amended 2019]**

1.2.17 Biopsy any enlarged intrathoracic nodes (10 mm or larger maximum short axis on CT) or other lesions in preference to the primary lesion if determination of nodal stage affects treatment. **[2011, amended 2019]**

Central primary tumour

1.2.18 Offer flexible bronchoscopy to people with central lesions on CT if nodal staging does not influence treatment. **[2011, amended 2019]**

Intrathoracic lymph node assessment

1.2.19 For people with lung cancer who could potentially have treatment with curative intent and have a low probability of nodal malignancy (lymph nodes below 10 mm maximum short axis on CT), offer PET-CT as the preferred first test after CT. **[2011, amended 2019]**

1.2.20 For people with suspected lung cancer who have enlarged intrathoracic lymph nodes (lymph nodes greater than or equal to 10 mm short axis on CT) and who could potentially have treatment with curative intent, offer PET-CT (if not already done), followed by EBUS-TBNA or EUS-FNA, or both. **[2019]**

1.2.21 If nodal status would affect the treatment plan, evaluate PET-CT-positive or

enlarged intrathoracic nodes using a systematic approach (sampling any suspicious node on CT, PET or USS) with:

- either EBUS-TBNA or EUS-FNA **or**
- both EBUS-TBNA and EUS-FNA. **[2019]**

1.2.22 Consider surgical mediastinal staging for people with a negative EBUS-TBNA or EUS-FNA if clinical suspicion of nodal malignancy is high and nodal status would affect their treatment plan. **[2019]**

We have produced an algorithm on intrathoracic nodal staging of NSCLC in patients being considered for radical treatment.

Why the committee made the recommendations

EBUS-TBNA and EUS-FNA

- initial invasive investigations for people with an intermediate probability of mediastinal malignancy
- subsequent investigations for people with a high probability of mediastinal malignancy, when neck ultrasound and biopsy are negative.

In these circumstances, when compared with alternative investigations, EBUS-TBNA and EUS-FNA:

- produce a diagnosis and stage faster than bronchoscopy or CT-guided biopsy
- are more acceptable to patients than surgery
- reduce the need for further investigations and hospital visits compared with bronchoscopy.

Full details of the evidence and the committee's discussion are in evidence review A: investigations for staging the mediastinum.

Further staging

1.2.23 Confirm the presence of isolated distant metastases or synchronous tumours by biopsy or further imaging (for example, MRI or PET-CT) in people for whom treatment with curative intent is an option. **[2011]**

1.2.24 Do not offer dedicated brain imaging to people with clinical stage 1 NSCLC who have no neurological symptoms and are having treatment with curative intent. **[2019]**

1.2.25 Offer contrast-enhanced brain CT to people with clinical stage 2 NSCLC who are having treatment with curative intent. If CT shows suspected brain metastases, offer contrast-enhanced brain MRI. **[2019]**

1.2.26 Offer contrast-enhanced brain MRI for people with stage 3 NSCLC who are having treatment with curative intent. **[2019]**

1.2.27 Offer people with clinical features suggestive of intracranial pathology CT of the head followed by MRI if normal, or MRI as an initial test. **[2011]**

1.2.28 Perform an X-ray as the first test for people with localised signs or symptoms of bone metastasis. If the results are negative or inconclusive, offer bone scintigraphy or an MRI scan. **[2005]**

1.2.29 Avoid bone scintigraphy when PET-CT has not shown bone metastases. **[2011]**

Why the committee made the recommendations

Brain imaging is helpful before starting treatment with curative intent, because if brain metastases are detected then the treatment plan is likely to change. However, routine brain imaging is expensive, and the evidence showed that it does not always offer a good balance of benefits and costs.

In people with stage 2 and 3a disease, the benefits of brain imaging outweigh the costs because:

- brain metastases are more common than in stage 1 disease
- people can start early treatment for metastases if they are identified, which improves prognosis
- some people with brain metastases will not have radical treatment (depending on factors such as the number of metastases, prognosis and patient preference), and this reduces costs.

In people with clinical stage 1 non-small-cell lung cancer (NSCLC) and no neurological symptoms, the prevalence of detectable brain metastases is fairly low (around 4%) compared with people with stage 2 or 3a disease. People with stage 1 NSCLC who do have brain metastases often still have radical lung treatment, which is much more rarely the case for people with stage 3a NSCLC. Overall, the lower prevalence of metastases and smaller reduction in numbers of people having radical treatment mean that the benefits of brain imaging in this population are too low to justify the costs.

The 2018 review only examined the clinical and cost effectiveness of imaging after the treatment plan has been decided, but the committee noted that it could be more efficient to conduct CT brain imaging alongside initial staging CT. With this in mind, the committee made a recommendation for research on routine brain imaging with CT at initial diagnosis and/or staging.

How the recommendations might affect practice

Practice in this area is variable. The committee estimated that the recommendations will increase the number of people who have brain imaging. In turn, they thought this should prevent the use of treatment options (such as lobectomy and sublobar resection) in some patients for whom it is not expected to be beneficial. The recommendations may also lead to an increase in radical radiotherapy, stereotactic radiosurgery and brain surgery. These treatments would be expected to improve the person's prognosis, although each treatment would carry its own risks and side effects.

Full details of the evidence and the committee's discussion are in evidence review B: brain imaging for people with NSCLC selected for treatment with curative intent.

Service delivery

1.2.30 Provide treatment without undue delay for people who have lung cancer that is suitable for radical treatment or chemotherapy, or who need radiotherapy or ablative treatment for relief of symptoms. **[2005, amended 2019]**

Multidisciplinary teams

1.2.31 Refer all people with a suspected diagnosis of lung cancer to a member of a lung cancer multidisciplinary team (usually a chest physician). **[2005]**

1.2.32 Discuss the care of all people with a working diagnosis of lung cancer at a lung cancer multidisciplinary team meeting. **[2005]**

Fast track lung clinics

1.2.33 Provide fast track lung cancer clinics for investigating suspected lung cancer. **[2005]**

Cancer clinical nurse specialists

1.2.34 All cancer units or centres should have 1 or more trained lung cancer clinical nurse specialists to:

- see people before, at the time of and after diagnosis
- provide continuing support
- facilitate communication between the secondary care team (including the multidisciplinary team), the person's GP, the community team and the person with lung cancer
- help people access advice and support whenever they need it. **[2005, amended 2019]**

Management

1.3 Stop smoking interventions and services

1.3.1 Inform people that smoking increases the risk of pulmonary complications after lung cancer surgery. **[2011]**

1.3.2 Advise people to stop smoking as soon as the diagnosis of lung cancer is suspected and tell them why this is important. **[2011]**

1.3.3 Do not postpone surgery for lung cancer to allow people to stop smoking. **[2011]**

Follow the section on stop-smoking interventions in NICE's guideline on tobacco: preventing uptake, promoting quitting and treating dependence.

1.4 Assessing people with non-small-cell lung cancer (NSCLC) for treatment with curative intent

Perioperative mortality

1.4.1 When evaluating surgery as an option for people with NSCLC, consider a global risk score such as Thoracoscore to estimate the risk of death. Ensure the person is aware of the risk before they give consent for surgery. **[2011]**

Cardiovascular function

1.4.2 Avoid surgery within 30 days of myocardial infarction. **[2011]**

1.4.3 Seek a cardiology review for people with:

- an active cardiac condition **or**
- 3 or more risk factors **or**

- poor cardiac functional capacity. **[2011]**

1.4.4 Offer surgery without further investigations to people with 2 or fewer risk factors and good cardiac functional capacity. **[2011]**

1.4.5 Optimise any primary cardiac treatment and begin secondary prophylaxis for coronary disease as soon as possible. **[2011]**

1.4.6 Continue anti-ischaemic treatment in the perioperative period, including aspirin, statins and beta-blockers. **[2011]**

1.4.7 For people with coronary stents, discuss perioperative anti-platelet treatment with a cardiologist. **[2011]**

1.4.8 Consider revascularisation (percutaneous intervention or coronary artery bypass grafting) before surgery for people with chronic stable angina and conventional indications for revascularisation. **[2011]**

Lung function

1.4.9 Perform spirometry and transfer factor (TLCO) testing before proceeding with treatment with curative intent. **[2011, amended 2019]**

1.4.10 Offer people surgery if they have a forced expiratory volume in 1 second (FEV1) within normal limits and good exercise tolerance. **[2011]**

1.4.11 Before surgery, perform a functional segment count to predict postoperative lung function. **[2011]**

1.4.12 Offer people with predicted postoperative FEV1 or TLCO below 30% the option of treatment with curative intent if they accept the risks of dyspnoea and associated complications. **[2011, amended 2019]**

1.4.13 Consider shuttle walk testing (using a distance walked of more than 400 m as a cut-off for good function) to assess the fitness of people with moderate to high risk of postoperative dyspnoea. **[2011]**

1.4.14 Consider cardiopulmonary exercise testing to measure oxygen uptake (VO_2 max) and assess lung function in people with moderate to high risk of postoperative dyspnoea, using more than 15 ml/kg/minute as a cut-off for good function. **[2011]**

Assessment before radiotherapy with curative intent

1.4.15 A clinical oncologist specialising in thoracic oncology should determine suitability for radiotherapy with curative intent, taking into account performance status and comorbidities. **[2011]**

1.5 Surgery and radiotherapy with curative intent for NSCLC

Terminology used for cancer staging classification changes over time. The guideline recommendations were developed using the 7th edition of the American Joint Committee on Cancer (AJCC) staging system.

Surgery

1.5.1 For people with NSCLC who are well enough and for whom treatment with curative intent is suitable, offer lobectomy (either open or thoracoscopic). **[2019]**

1.5.2 Offer more extensive surgery (bronchoangioplastic surgery, bilobectomy, pneumonectomy) only when needed to obtain clear margins. **[2011]**

1.5.3 Perform hilar and mediastinal lymph node sampling or en bloc resection for all people having surgery with curative intent. **[2011]**

1.5.4 For people with T3 NSCLC with chest wall involvement who are having surgery, aim for complete resection of the tumour using either extrapleural or en bloc chest wall resection. **[2005]**

Surgery or radiotherapy for people not having lobectomy

1.5.5 For people with stage 1 to 2a (T1a to T2b, N0, M0) NSCLC who decline lobectomy or in whom it is contraindicated, offer radical radiotherapy with stereotactic ablative radiotherapy (SABR) or sublobar resection. **[2019]**

Radical radiotherapy for people not having surgery

1.5.6 Offer pulmonary function tests (including lung volumes and transfer factor) before radical radiotherapy for NSCLC. **[2005]**

1.5.7 Include people receiving radiotherapy with curative intent in a national quality assurance programme. **[2011]**

1.5.8 For people with stage 1 to 2a (T1a to T2b, N0, M0) NSCLC who decline surgery or in whom any surgery is contraindicated, offer SABR. If SABR is contraindicated, offer either conventional or hyperfractionated radiotherapy. **[2019]**

1.5.9 Consider radical radiotherapy (either conventional or hyperfractionated) for people with stage 3a NSCLC who:

- are eligible for this treatment **and**
- cannot tolerate, or decline, chemoradiotherapy (with or without surgery). **[2019]**

1.5.10 For people with stage 3b NSCLC who cannot tolerate or who decline chemoradiotherapy, consider radical radiotherapy (either conventional or hyperfractionated) if they are eligible for this treatment. **[2019]**

Radiotherapy fractionation

1.5.11 If using SABR, follow the SABR Consortium guidance on fractionation. **[2019]**

1.5.12 If conventionally fractionated radical radiotherapy is used, offer either:

- 55 Gy in 20 fractions over 4 weeks **or**
- 60 to 66 Gy, in 30 to 33 fractions, over 6 to 6.5 weeks. **[2019]**

Why the committee made the recommendations

For people with NSCLC who are well enough and for whom treatment with curative intent is suitable, the evidence showed that lobectomy provides better survival outcomes than stereotactic ablative radiotherapy (SABR). Lobectomy is a good compromise between preserving pulmonary function and being more likely to remove cancerous cells compared with sublobar resection.

For people with stage 1 to 2a (T1a to T2b, N0, M0) NSCLC, the evidence showed that:

- if they decline lobectomy or it is contraindicated, sublobar resection and SABR both provide better survival outcomes than conventionally fractionated radiotherapy, although it is not clear which of these 2 is better
- if they decline any surgery or it is contraindicated, SABR provides better survival outcomes than conventionally fractionated radiotherapy, and people often prefer it because it involves fewer hospital visits
- if surgery and SABR are contraindicated, conventionally fractionated radiotherapy provides better survival outcomes than no radiotherapy.

For people with stage 3a or 3b NSCLC who cannot tolerate chemoradiotherapy or who decline it, the evidence was not strong enough to recommend conventional radiotherapy over hyper-fractionated regimens or vice versa. However, people who cannot tolerate chemoradiotherapy may also be unable to tolerate radical radiotherapy, so this will not be an option for everyone with stage 3a or 3b NSCLC. For an explanation of the recommendations covering surgery in this group, see the rationale on management of stage 3a N2 NSCLC.

55 Gy in 20 fractions is the most common conventional radical radiotherapy regimen in the UK. If conventionally fractionated radiotherapy is used, a total radiation dose of 60 Gy provides better survival outcomes and fewer adverse events than 74 Gy. A total dose of 60 to 66 Gy is also normal NHS practice.

There are not many randomised controlled trials comparing SABR with surgery (lobectomy or sublobar resection). SABR is non-invasive, so if it is as effective as surgery then it may be a preferable option for many people with lung cancer. There

are also various factors that may make SABR less costly than surgery. For example, it is usually delivered as outpatient treatment. There might also be subgroups for whom different forms of surgery or SABR might be the most cost-effective options. The committee made a recommendation for research on SABR compared with surgery to investigate these uncertainties.

How the recommendations might affect practice

The new recommendations on SABR are a change from the 2011 guideline and improve choice for people with NSCLC. However, practice has also changed since 2011, and SABR is now widely used, so implementing the recommendations may not involve a significant change in practice. The remaining changes to the recommendations reflect current practice.

Full details of the evidence and the committee's discussion are in evidence review D: radiotherapy with curative intent for NSCLC.

1.6 Multimodality treatment for NSCLC with curative intent

Terminology used for cancer staging classification changes over time. The guideline recommendations were developed using the 7th edition of the American Joint Committee on Cancer (AJCC) staging system. For the AJCC staging system used in a NICE technology appraisal, see the relevant technology appraisal guidance.

1.6.1 Ensure that all people whose condition is potentially suitable for multimodality treatment (surgery, radiotherapy and systemic anticancer therapy in any combination) are assessed by a thoracic oncologist and by a thoracic surgeon. **[2011]**

1.6.2 Treat Pancoast tumours in the same way as other types of NSCLC. Offer multimodality treatment according to resectability, stage of the tumour and

performance status of the person. **[2011]**

1.6.3 For people with operable stage 3a N2 NSCLC who can have surgery and are well enough for multimodality treatment, consider chemoradiotherapy with surgery. **[2019]**

1.6.4 Discuss the benefits and risks with the person before starting chemoradiotherapy with surgery, including that it:

- improves progression-free survival
- may improve overall survival. **[2019]**

1.6.5 For people with stage 3a N2 NSCLC who are having chemoradiotherapy and surgery, ensure that their surgery is scheduled for 3 to 5 weeks after completion of the chemoradiotherapy. **[2019]**

1.6.6 Multidisciplinary teams that provide chemoradiotherapy with surgery should have expertise in multimodality treatment and in all of the individual components. **[2019]**

1.6.7 Centres performing lung resections for lung cancer should validate their data for the National Lung Cancer Audit. **[2019]**

Why the committee made the recommendations

The available evidence showed that chemoradiotherapy and surgery are more effective than chemoradiotherapy alone in people who are well enough for surgery and when the disease is operable. For chemotherapy and surgery, there was no evidence that survival outcomes were better than for chemoradiotherapy, so the additional costs of including surgery outweighed the benefits.

The key benefit associated with chemoradiotherapy and surgery is the longer progression-free survival time. An analysis of multiple trials showed improved progression-free survival and cost effectiveness for chemoradiotherapy with surgery, compared with chemoradiotherapy alone. There was an 89% probability that chemoradiotherapy and surgery improved average overall survival time compared with chemoradiotherapy. However, the evidence in favour of chemoradiotherapy and surgery involved indirect comparisons, and no head-to-head trials showed meaningful differences in overall survival for any of the interventions. And as with any major surgery, there is a perioperative mortality risk for people who have chemoradiotherapy and surgery.

The 3 to 5 week wait for surgery is recommended to give people time to recover from the chemoradiotherapy.

Chemoradiotherapy with surgery is not often offered in current practice. In addition, there are specific factors to take into account when offering all these treatments together. Therefore, multidisciplinary teams providing it should have expertise both in the combined therapy, and in all the individual components.

Immunotherapy has been shown to be effective in a variety of NSCLC indications but there is currently no evidence on whether it is clinically or cost effective for people with stage 3a N2 NSCLC following surgery. The committee made a recommendation for research on immunotherapy after multimodality treatment to address this.

How the recommendations might affect practice

The committee felt that chemoradiotherapy and surgery is offered far less often than chemoradiotherapy alone or chemotherapy and surgery for people with NSCLC stage 3a N2. Therefore, these recommendations could lead to a change in current practice.

Full details of the evidence and the committee's discussion are in evidence review C: management of NSCLC stage IIIA-N2.

Perioperative systemic anticancer therapy for potentially resectable NSCLC

Neoadjuvant treatment

1.6.8 Nivolumab in combination with chemotherapy is recommended as an option for neoadjuvant treatment of resectable (tumours at least 4 cm or node positive) NSCLC. For full details, see NICE's technology appraisal guidance on nivolumab (TA876, 2023).

Neoadjuvant and adjuvant treatment

1.6.9 Durvalumab in combination with platinum-based chemotherapy is recommended as an option for neoadjuvant (then continued alone as adjuvant) treatment of resectable (tumours at least 4 cm or node positive) NSCLC without epidermal growth factor receptor (EGFR) mutations or anaplastic lymphoma kinase (ALK) rearrangements. For full details, see NICE's technology appraisal guidance on durvalumab (TA1030, 2025).

1.6.10 Pembrolizumab in combination with platinum-based chemotherapy is recommended as an option for neoadjuvant (then continued alone as adjuvant) treatment of resectable NSCLC with a high risk of recurrence. For full details, see NICE's technology appraisal guidance on pembrolizumab (TA1017, 2024).

Adjuvant treatment

1.6.11 Offer postoperative systemic anticancer therapy to people with good performance status (WHO 0 or 1) and T1a to 4, N1 to 2, M0 NSCLC. **[2011]**

1.6.12 Consider postoperative systemic anticancer therapy for people with good performance status (WHO 0 or 1) and T2b to 4, N0, M0 NSCLC with tumours greater than 4 cm in diameter. **[2011]**

1.6.13 Offer a platinum-based combination chemotherapy regimen for adjuvant chemotherapy. **[2011]**

1.6.14 Osimertinib is recommended as an option for adjuvant treatment of completely resected stage 1b to 3a NSCLC with EGFR exon 19 deletions or EGFR exon 21 (L858R) substitution mutations. It should be stopped at 3 years, or earlier if there is disease recurrence or unacceptable toxicity. For full details, see NICE's technology appraisal guidance on osimertinib (TA1043, 2025).

1.6.15 Alectinib is recommended as an option for adjuvant treatment of completely resected stage 1b (tumours at least 4 cm) to 3a ALK-positive NSCLC. For full details, see NICE's technology appraisal guidance on alectinib (TA1014, 2024).

1.6.16 For medicines recommended as options for adjuvant treatment of completely resected NSCLC with a high risk of recurrence after platinum-based chemotherapy in some people, see NICE's technology appraisal guidance on:

- atezolizumab for NSCLC with a programmed cell death ligand 1 (PD-L1) score of 50% or more and without EGFR mutations or ALK rearrangements (TA1071, June 2025)
- pembrolizumab (TA1037, February 2025).

Locally advanced unresectable NSCLC

1.6.17 Consider chemoradiotherapy for people with stage 2 or 3 NSCLC whose condition is not suitable for or who decline surgery. Balance potential benefit in survival with the risk of additional toxicities. **[2011]**

1.6.18 Durvalumab is recommended as an option for treating locally advanced unresectable NSCLC with PD-L1 expression on 1% or more of tumour cells if disease has not progressed after concurrent platinum-based chemoradiation. For full details, see NICE's technology appraisal guidance on durvalumab (TA798, 2022).

1.7 Systemic anticancer therapy for advanced non-small-cell lung cancer

We have produced treatment pathways bringing together NICE-recommended treatment options from this guideline and relevant technology appraisal guidance on advanced non-small-cell lung cancer (NSCLC; squamous and non-squamous). The treatment pathways cover the recommended treatment options at each decision point.

These are available to view as individual pathways (linked below), or grouped together in a single interactive PDF of all treatment pathways for squamous and non-squamous advanced non-small-cell lung cancer.

We have also produced fully accessible summaries of the treatment pathways.

Also see the section on multimodality treatment for NSCLC with curative intent.

Squamous NSCLC

No targetable mutations, PD-L1 below 50%

Systemic anticancer therapy: treatment options for people with squamous non-small-cell lung cancer, with no targetable mutations and PD-L1 below 50%

Fully accessible summary of systemic anticancer therapy: treatment options for people with squamous non-small-cell lung cancer, with no targetable mutations and PD-L1 below 50%

No targetable mutations, PD-L1 50% or higher

Systemic anticancer therapy: treatment options for people with squamous non-small-cell

lung cancer, with no targetable mutations and PD-L1 50% or higher

Fully accessible summary of systemic anticancer therapy: treatment options for people with squamous non-small-cell lung cancer, with no targetable mutations and PD-L1 50% or higher

RET fusion positive, PD-L1 below 50%

Systemic anticancer therapy: treatment options for people with RET fusion positive squamous non-small-cell lung cancer, with PD-L1 below 50%

Fully accessible summary of systemic anticancer therapy: treatment options for people with RET fusion positive squamous non-small-cell lung cancer, with PD-L1 below 50%

RET fusion positive, PD-L1 50% or higher

Systemic anticancer therapy: treatment options for people with RET fusion positive squamous non-small-cell lung cancer, with PD-L1 50% or higher

Fully accessible summary of systemic anticancer therapy: treatment options for people with RET fusion positive squamous non-small-cell lung cancer, with PD-L1 50% or higher

KRAS G12C positive, PD-L1 below 50%

Systemic anticancer therapy: treatment options for people with KRAS G12C positive squamous non-small-cell lung cancer, with PD-L1 below 50%

Fully accessible summary of systemic anticancer therapy: treatment options for people with KRAS G12C positive squamous non-small-cell lung cancer, with PD-L1 below 50%

KRAS G12C positive, PD-L1 50% or higher

Systemic anticancer therapy: treatment options for people with KRAS G12C positive squamous non-small-cell lung cancer, with PD-L1 50% or higher

Fully accessible summary of systemic anticancer therapy: treatment options for people with KRAS G12C positive squamous non-small-cell lung cancer, with PD-L1 50% or higher

METex14 skipping alteration, PD-L1 below 50%

Systemic anticancer therapy: treatment options for people with METex14 skipping alteration squamous non-small-cell lung cancer, with PD-L1 below 50%

Fully accessible summary of systemic anticancer therapy: treatment options for people with METex14 skipping alteration squamous non-small-cell lung cancer, with PD-L1 below 50%

METex14 skipping alteration, PD-L1 50% or higher

Systemic anticancer therapy: treatment options for people with METex14 skipping alteration squamous non-small-cell lung cancer, with PD-L1 50% or higher

Fully accessible summary of systemic anticancer therapy: treatment options for people with METex14 skipping alteration squamous non-small-cell lung cancer, with PD-L1 50% or higher

BRAF V600 positive, PD-L1 below 50%

Systemic anticancer therapy: treatment options for people with BRAF V600 positive squamous non-small-cell lung cancer, with PD-L1 below 50%

Fully accessible summary of systemic anticancer therapy: treatment options for people with BRAF V600 positive squamous non-small-cell lung cancer, with PD-L1 below 50%

BRAF V600 positive, PD-L1 50% or higher

Systemic anticancer therapy: treatment options for people with BRAF V600 positive squamous non-small-cell lung cancer, with PD-L1 50% or higher

Fully accessible summary of systemic anticancer therapy: treatment options for people with BRAF V600 positive squamous non-small-cell lung cancer, with PD-L1 50% or higher

Non-squamous NSCLC

No targetable mutations, PD-L1 below 50%

Systemic anticancer therapy: treatment options for people with non-squamous non-small-cell lung cancer, with no targetable mutations and PD-L1 below 50%

Fully accessible summary of systemic anticancer therapy: treatment options for people with non-squamous non-small-cell lung cancer, with no targetable mutations and PD-L1 below 50%

No targetable mutations, PD-L1 50% or higher

Systemic anticancer therapy: treatment options for people with non-squamous non-small-cell lung cancer, with no targetable mutations and PD-L1 50% or higher

Fully accessible summary of systemic anticancer therapy: treatment options for people with non-squamous non-small-cell lung cancer, with no targetable mutations and PD-L1 50% or higher

RET fusion positive, PD-L1 below 50%

Systemic anticancer therapy: treatment options for people with RET fusion positive non-squamous non-small-cell lung cancer, with PD-L1 below 50%

Fully accessible summary of systemic anticancer therapy: treatment options for people with RET fusion positive non-squamous non-small-cell lung cancer, with PD-L1 below 50%

RET fusion positive, PD-L1 50% or higher

Systemic anticancer therapy: treatment options for people with RET fusion positive non-squamous non-small-cell lung cancer, with PD-L1 50% or higher

Fully accessible summary of systemic anticancer therapy: treatment options for people with RET fusion positive non-squamous non-small-cell lung cancer, with PD-L1 50% or higher

KRAS G12C positive, PD-L1 below 50%

Systemic anticancer therapy: treatment options for people with KRAS G12C positive non-squamous non-small-cell lung cancer, with PD-L1 below 50%

Fully accessible summary of systemic anticancer therapy: treatment options for people with KRAS G12C positive non-squamous non-small-cell lung cancer, with PD-L1 below 50%

KRAS G12C positive, PD-L1 50% or higher

Systemic anticancer therapy: treatment options for people with KRAS G12C positive non-squamous non-small-cell lung cancer, with PD-L1 50% or higher

Fully accessible summary of systemic anticancer therapy: treatment options for people with KRAS G12C positive non-squamous non-small-cell lung cancer, with PD-L1 50% or higher

METex14 skipping alteration, PD-L1 below 50%

Systemic anticancer therapy: treatment options for people with METex14 skipping alteration non-squamous non-small-cell lung cancer, with PD-L1 below 50%

Fully accessible summary of systemic anticancer therapy: treatment options for people with METex14 skipping alteration non-squamous non-small-cell lung cancer, with PD-L1 below 50%

METex14 skipping alteration, PD-L1 50% or higher

Systemic anticancer therapy: treatment options for people with METex14 skipping alteration non-squamous non-small-cell lung cancer, with PD-L1 50% or higher

Fully accessible summary of systemic anticancer therapy: treatment options for people with METex14 skipping alteration non-squamous non-small-cell lung cancer, with PD-L1 50% or higher

BRAF V600 positive, PD-L1 below 50%

Systemic anticancer therapy: treatment options for people with BRAF V600 positive non-

squamous non-small-cell lung cancer, with PD-L1 below 50%

Fully accessible summary of systemic anticancer therapy: treatment options for people with BRAF V600 positive non-squamous non-small-cell lung cancer, with PD-L1 below 50%

BRAF V600 positive, PD-L1 50% or higher

Systemic anticancer therapy: treatment options for people with BRAF V600 positive non-squamous non-small-cell lung cancer, with PD-L1 50% or higher

Fully accessible summary of systemic anticancer therapy: treatment options for people with BRAF V600 positive non-squamous non-small-cell lung cancer, with PD-L1 50% or higher

ROS-1 positive

Systemic anticancer therapy: treatment options for people with ROS-1 positive non-squamous non-small-cell lung cancer

Fully accessible summary of systemic anticancer therapy: treatment options for people with ROS-1 positive non-squamous non-small-cell lung cancer

EGFR-TK positive

Systemic anticancer therapy: treatment options for people with EGFR-TK positive non-squamous non-small-cell lung cancer

Fully accessible summary of systemic anticancer therapy: treatment options for people with EGFR-TK positive non-squamous non-small-cell lung cancer

ALK positive

Systemic anticancer therapy: treatment options for people with ALK positive non-squamous non-small-cell lung cancer

Fully accessible summary of systemic anticancer therapy: treatment options for people with ALK positive non-squamous non-small-cell lung cancer

Neurotrophic tyrosine receptor kinase (NTRK) fusion-positive solid tumours

1.7.1 Larotrectinib is recommended as an option through the Cancer Drugs Fund for treating locally advanced or metastatic NTRK fusion-positive solid tumours when there are no other satisfactory treatment options. For full details, see NICE's technology appraisal guidance on larotrectinib (TA630, May 2020).

Treatments not recommended for squamous and non-squamous advanced NSCLC

1.7.2 For medicines not recommended for treating advanced NSCLC in some people, see NICE's technology appraisal guidance on:

- cemiplimab with platinum-based chemotherapy for untreated advanced NSCLC (TA1108, November 2025)
- amivantamab for EGFR-TK positive advanced NSCLC (TA850, December 2022)
- pralsetinib for RET fusion-positive advanced NSCLC (TA812, August 2022)
- nivolumab with ipilimumab and chemotherapy for untreated metastatic NSCLC without EGFR or ALK mutations (TA724, September 2021)
- necitumumab for EGFR-TK positive advanced squamous NSCLC (TA411, September 2016)
- ramucirumab after platinum-based chemotherapy (TA403, August 2016)
- gefitinib for EGFR-TK positive advanced NSCLC (TA374, December 2015)
- erlotinib for NSCLC without EGFR mutations that has progressed after chemotherapy (TA374, December 2015)
- erlotinib for maintenance treatment after platinum-based first-line chemotherapy (TA227, June 2011)
- pemetrexed after chemotherapy (TA124, August 2007).

1.8 Assessing people with small-cell lung cancer (SCLC)

1.8.1 Arrange for people with SCLC to have an assessment by a thoracic oncologist within 1 week of deciding to recommend treatment. **[2011]**

1.9 Surgery for early-stage SCLC

Terminology used for cancer staging classification changes over time. The guideline recommendations were developed using the 7th edition of the American Joint Committee on Cancer (AJCC) staging system.

1.9.1 Consider surgery in people with early-stage SCLC (T1 to 2a, N0, M0). **[2011]**

1.10 First-line treatment for limited-stage SCLC

Terminology used for cancer staging classification changes over time. The guideline recommendations were developed using the 7th edition of the American Joint Committee on Cancer (AJCC) staging system. For the AJCC staging system used in a NICE technology appraisal, see the relevant technology appraisal guidance.

1.10.1 Offer people with limited-stage SCLC (broadly corresponding to T1 to 4, N0 to 3, M0) 4 to 6 cycles of cisplatin-based combination chemotherapy. Consider substituting carboplatin in people with impaired renal function, poor WHO performance status (score of 2 or more) or significant comorbidity. **[2011]**

1.10.2 Offer twice-daily radiotherapy with concurrent chemotherapy to people with limited-stage SCLC (broadly corresponding to T1 to 4, N0 to 3, M0) and a WHO performance status of 0 or 1, if they present with disease that can be encompassed in a radical thoracic radiotherapy volume. Start the radiotherapy during the first or second cycle of chemotherapy. **[2019]**

1.10.3 If the person declines or is unable to have twice-daily radiotherapy, offer once-daily radiotherapy. **[2019]**

1.10.4 Offer sequential radical thoracic radiotherapy to people with limited-stage SCLC (broadly corresponding to T1 to 4, N0 to 3, M0) who are not well enough for concurrent chemoradiotherapy but who respond to chemotherapy. **[2019]**

1.10.5 Offer prophylactic cranial irradiation at a dose of 25 Gy in 10 fractions to people with limited-stage SCLC and a WHO performance status of 0 to 2, if their disease has not progressed on first-line treatment. **[2011, amended 2019]**

1.10.6 Durvalumab is recommended as an option for treating limited-stage SCLC that has not progressed after platinum-based chemoradiotherapy in adults. For full details, see NICE's technology appraisal guidance on durvalumab (TA1099, 2025).

Why the committee changed the recommendations

The evidence showed a survival benefit from twice-daily radiotherapy compared with once-daily. However, the committee agreed that some people with SCLC will not be well enough to tolerate twice-daily radiotherapy, so they recommended giving people the option of once-daily radiotherapy.

The committee noted that, in practice, radiotherapy is not started in chemotherapy cycle 1, because this is when planning for the radiotherapy often takes place (see the recommendation on twice-daily radiotherapy with concurrent chemotherapy in the section on first-line treatment for limited-stage SCLC). However, there was no new evidence on when to start radiotherapy, so the 2019 recommendation on this is the same as the original 2011 recommendation.

There were limited data available on whether continuous radiotherapy with concurrent chemotherapy was more effective than alternating radiotherapy and chemotherapy. Because of the limited data, and the committee's experience that people prefer to complete treatment as quickly as possible, the 2019 recommendation on concurrent therapy (see the recommendation on twice-daily radiotherapy with concurrent chemotherapy) is the same as the 2011 recommendation.

Full details of the evidence and the committee's discussion are in evidence review F: chemoradiotherapy for limited stage SCLC.

1.11 First-line treatment for extensive-stage SCLC

Terminology used for cancer staging classification changes over time. The guideline recommendations were developed using the 7th edition of the American Joint Committee on Cancer (AJCC) staging system. For the AJCC staging system used in a NICE technology appraisal, see the relevant technology appraisal guidance.

1.11.1 Offer platinum-based combination chemotherapy to people with extensive-stage SCLC (broadly corresponding to T1 to 4, N0 to 3, M1a/b – including cerebral metastases) if they are fit enough. **[2011]**

1.11.2 Assess the person's condition before treatment for extensive-stage SCLC (broadly corresponding to T1 to 4, N0 to 3, M1a/b) and offer up to a maximum of 6 cycles of chemotherapy, depending on response and toxicity. **[2011]**

1.11.3 For medicines recommended as options for untreated extensive-stage SCLC in people who have an Eastern Cooperative Oncology Group performance status of 0 or 1, see NICE's technology appraisal guidance on:

- durvalumab with etoposide and either carboplatin or cisplatin (TA1041, 2025)
- atezolizumab with etoposide and carboplatin (TA638, 2020).

1.11.4 Consider thoracic radiotherapy with prophylactic cranial irradiation for people with extensive-stage SCLC who have had a partial or complete response to chemotherapy within the thorax and at distant sites. **[2019]**

1.11.5 Consider prophylactic cranial irradiation for people with extensive-stage SCLC and a WHO performance status of 0 to 2, if their disease has responded to first-line treatment. **[2019]**

Why the committee made the recommendations

Thoracic radiotherapy

There was some uncertainty in the evidence. However, the study most relevant to UK practice showed that thoracic radiotherapy improves long-term survival for people who have had a partial or complete response to chemotherapy, if they live longer than 1 year after the radiotherapy. The committee specified that thoracic radiotherapy should be given alongside prophylactic cranial irradiation. In addition, the reviewed clinical trials gave thoracic radiotherapy alongside prophylactic cranial irradiation.

Prophylactic cranial irradiation

The evidence showed that prophylactic cranial irradiation improves survival versus best supportive care.

Prophylactic cranial irradiation can adversely affect quality of life, and the survival benefits are limited. There is also some evidence from a study outside the UK that routine MRI follow-up may be more cost effective. The committee made a recommendation for research on prophylactic cranial irradiation compared with routine MRI follow-up in extensive-stage SCLC, to provide evidence more relevant to the UK and to see if MRI could identify people who need whole-brain radiotherapy and so reduce the number of people having unnecessary treatment.

How the recommendations might affect practice

Thoracic radiotherapy

The 2011 recommendation only recommended thoracic radiotherapy for people with a complete response to chemotherapy at distant sites. Therefore, this recommendation could increase the number of people who are given thoracic radiotherapy.

Prophylactic cranial irradiation

It is likely that the recommendation reflects current clinical practice.

Full details of the evidence and the committee's discussion are in evidence review G: thoracic radiotherapy for extensive stage SCLC and evidence review H: prophylactic cranial irradiation for extensive stage SCLC.

1.12 Subsequent treatment for SCLC that has relapsed after first-line treatment

1.12.1 Offer people with SCLC that has relapsed after first-line treatment assessment by a thoracic oncologist. **[2011]**

1.12.2 Inform people whose disease has not responded to first-line treatment that there is very limited evidence that second-line chemotherapy will be of benefit. **[2011]**

1.12.3 Offer people with relapsed SCLC in whom chemotherapy is suitable treatment with an anthracycline-containing regimen or further treatment with a platinum-based regimen to a maximum of 6 cycles. **[2011]**

1.12.4 Oral topotecan is recommended as an option for treating relapsed SCLC in some people. For full details, see NICE's technology appraisal guidance on topotecan (TA184, 2009).

1.12.5 Offer radiotherapy for palliation of local symptoms to people with SCLC that has relapsed after first-line treatment. **[2011]**

1.12.6 Tarlatamab is not recommended for treating extensive-stage SCLC in adults whose cancer has progressed after 2 or more lines of treatment, including platinum-based chemotherapy. For full details, see NICE's technology appraisal guidance on tarlatamab (TA1091, 2025).

Palliative interventions and supportive and palliative care

1.13 Palliative radiotherapy

1.13.1 Provide palliative radiotherapy, either as symptoms arise or immediately, for people who are eligible and cannot have curative treatment. **[2005]**

1.14 Managing endobronchial obstruction

1.14.1 When people have large airway involvement, monitor (clinically and radiologically) for endobronchial obstruction to ensure treatment is offered early. **[2011]**

1.14.2 Offer external beam radiotherapy and/or endobronchial debulking or stenting to people with impending endobronchial obstruction. **[2011]**

1.14.3 Every cancer alliance should ensure that people have rapid access to a team capable of providing interventional endobronchial treatments. **[2011]**

1.15 Other palliative treatments

1.15.1 Perform pleural aspiration or drainage in an attempt to relieve the symptoms of a pleural effusion. **[2005]**

1.15.2 Offer talc pleurodesis to people who would experience long-term symptomatic benefit from aspiration or drainage of fluid. **[2005]**

1.15.3 Consider non-pharmacological interventions that are based on psychosocial support, breathing control and coping strategies for people with breathlessness. **[2005]**

1.15.4 Non-pharmacological interventions for breathlessness should be delivered by a multidisciplinary group, coordinated by a professional with an interest in breathlessness and expertise in the techniques (for example, a nurse, physiotherapist or occupational therapist). Although this support may be provided in a breathlessness clinic, people should have access to it in all care settings. **[2005]**

1.15.5 Consider opioids, such as codeine or morphine, to reduce cough. **[2005]**

1.15.6 Refer people with troublesome hoarseness due to recurrent laryngeal nerve palsy to an ear, nose and throat specialist for advice. **[2005]**

1.15.7 For people who present with superior vena cava obstruction, offer chemotherapy and radiotherapy based on the stage of disease and performance status. **[2005]**

1.15.8 Consider stent insertion for the immediate relief of severe symptoms of superior vena caval obstruction or following failure of earlier treatment. **[2005]**

1.16 Managing brain metastases

1.16.1 Offer dexamethasone to people with symptomatic brain metastases and reduce to the minimum necessary maintenance dose for symptomatic response. **[2011]**

1.16.2 For guidance on management of brain metastases, see the section on management of confirmed brain metastases in the NICE guideline on brain tumours. **[2019]**

1.17 Bone metastases

1.17.1 Offer single-fraction radiotherapy to people with bone metastasis who need palliation and for whom standard pain relief is inadequate. **[2005]**

1.17.2 Denosumab is recommended as an option for preventing skeletal-related events in adults with bone metastases from breast cancer and from solid tumours other

than prostate if bisphosphonates would otherwise be prescribed. For full details, see NICE's technology appraisal guidance on denosumab (TA265, 2012).

Also see NICE's guideline on spinal metastases and metastatic spinal cord compression.

1.18 Managing other symptoms: weight loss, loss of appetite, difficulty swallowing, fatigue and depression

1.18.1 Other symptoms, including weight loss, loss of appetite, depression and difficulty swallowing, should be managed by multidisciplinary groups that include supportive and palliative care professionals. **[2005]**

Follow-up and patient perspectives

1.19 Organising follow-up and collecting information on patient experience

1.19.1 Offer all people with lung cancer an initial follow-up appointment with a specialist within 6 weeks of completing treatment to discuss ongoing care. Offer regular appointments after this, rather than relying on the person requesting appointments when they experience symptoms. **[2011]**

1.19.2 Offer protocol-driven follow-up led by a lung cancer clinical nurse specialist as an option for people with a life expectancy of more than 3 months. **[2011]**

1.19.3 Ensure that people know how to contact the lung cancer clinical nurse specialist involved in their care between their scheduled hospital visits. **[2011]**

Recommendations for research

The guideline committee has made the following recommendations for research.

1 Immunotherapy after multimodality treatment

What is the effectiveness and cost effectiveness of immunotherapy in people with stage 3a to N2 non-small-cell lung cancer (NSCLC) following multimodality treatment including surgery?

Why the committee made the recommendation for research

Immunotherapy has been shown to be effective in a variety of NSCLC indications but there is currently no evidence on whether it is clinically or cost effective for people with stage 3a N2 NSCLC following surgery. The committee made a recommendation for research on immunotherapy after multimodality treatment to address this.

Full details of the evidence and the committee's discussion are in evidence review C: management of NSCLC stage IIIA-N2.

2 Stereotactic ablative radiotherapy compared with surgery

What is the effectiveness and cost effectiveness of stereotactic ablative radiotherapy (SABR) compared with surgery (for example, sublobar, wedge resection, lobectomy) for people with NSCLC (stage 1 and 2a) in whom surgery is suitable?

Why the committee made the recommendation for research

There are not many randomised controlled trials comparing SABR with surgery (lobectomy or sublobar resection). SABR is non-invasive, so if it is as effective as surgery then it may be a preferable option for many people with lung cancer. There are also various factors that may make SABR less costly than surgery. For example, it is usually delivered as outpatient treatment. There might also be subgroups for whom different forms of surgery or SABR might be the most cost-effective options. The committee made a recommendation for research on SABR compared with surgery to investigate these uncertainties.

Full details of the evidence and the committee's discussion are in evidence review D: radiotherapy with curative intent for NSCLC.

3 Routine contrast-enhanced brain CT

What is the effectiveness and cost effectiveness of routinely performing contrast-enhanced brain CT at the time of initial diagnosis and/or staging CT?

Why the committee made the recommendation for research

The 2018 review only examined the clinical and cost effectiveness of imaging after the treatment plan has been decided, but the committee noted that it could be more efficient to conduct CT brain imaging alongside initial staging CT. With this in mind, the committee made a recommendation for research on routine brain imaging with CT at initial diagnosis and/or staging.

Full details of the evidence and the committee's discussion are in evidence review A: investigations for staging the mediastinum.

4 Prophylactic cranial irradiation compared with routine MRI follow-up in extensive-stage small-cell lung cancer

What is the effectiveness and cost effectiveness of prophylactic cranial irradiation compared with routine MRI follow-up in people with extensive-stage small-cell lung cancer without brain metastases?

Why the committee made the recommendation for research

Prophylactic cranial irradiation

The evidence showed that prophylactic cranial irradiation improves survival versus best supportive care.

Prophylactic cranial irradiation can adversely affect quality of life, and the survival benefits are limited. There is also some evidence from a study outside the UK that routine MRI follow-up may be more cost effective. The committee made a recommendation for research on prophylactic cranial irradiation compared with routine MRI follow-up in extensive-stage SCLC, to provide evidence more relevant to the UK and to see if MRI could identify people who need whole-brain radiotherapy and so reduce the number of people having unnecessary treatment.

Full details of the evidence and the committee's discussion are in evidence review G: thoracic radiotherapy for extensive stage SCLC and evidence review H: prophylactic cranial irradiation for extensive stage SCLC.

Finding more information and committee details

To find NICE guidance on related topics, including guidance in development, see the NICE topic page on lung cancer.

For full details of the evidence and the guideline committee's discussions, see the evidence reviews. You can also find information about how the guideline was developed, including details of the committee.

NICE has produced tools and resources to help you put this guideline into practice. For general help and advice on putting NICE guidelines into practice see resources to help you put NICE guidance into practice.

Update information

March 2024: We have removed the following systemic anticancer therapy treatment pathways for advanced non-small-cell lung cancer (NSCLC) after the withdrawal of the NICE technology appraisal guidance on mobocertinib:

- EGFRex 20 insertion positive, PD-L1 below 50%, for both squamous and non-squamous NSCLC
- EGFRex 20 insertion positive, PD-L1 50% or higher, for both squamous and non-squamous NSCLC.

July 2023: We have made the following changes to the systemic anticancer therapy treatment pathways for advanced NSCLC:

- added the NICE technology appraisal guidance on dabrafenib and trametinib, for squamous and non-squamous NSCLC
- added the NICE technology appraisal guidance on selpercatinib, for squamous and non-squamous NSCLC
- updated the treatment options in the pathways for EGFR-TK positive, KRAS G12C positive and METex14 skipping alteration NSCLC.

March 2023: We added the NICE technology appraisal guidance on mobocertinib to the systemic anticancer therapy treatment pathways for advanced NSCLC.

September 2022: We added the NICE technology appraisal guidance on tepotinib to the systemic anticancer therapy treatment pathways for advanced NSCLC.

August 2022: We have changed how the information on systemic anticancer therapy for advanced NSCLC is presented.

- In the 2019 version of the guideline, this information was presented both in separate visual summaries, and as recommendations in the guideline.
- In the 2022 update, this information is presented in separate treatment pathways. The recommendations have been incorporated into the treatment pathways and have been removed from the guideline. This is a presentational change only, and the

recommendations still apply.

The sources for the 2019 and 2022 versions are the same:

- NICE technology appraisal guidance
- Recommendations from the 2019 version of the guideline that have been incorporated into the treatment pathways
- Input from the 2019 guideline committee and other topic experts.

The 2022 treatment pathways were developed following an interim process to develop visualisations of treatment options.

March 2019: We reviewed the evidence and made new recommendations on mediastinal lymph node assessment, brain imaging, prophylactic cranial irradiation, radical radiotherapy and operable stage 3a disease. These recommendations are marked **[2019]**.

We also made some changes without an evidence review. These recommendations are marked **[2005, amended 2019]** or **[2011, amended 2019]**.

Recommendations marked **[2005]** or **[2011]** last had an evidence review in 2005 or 2011. In some cases, minor changes have been made to the wording to bring the language and style up to date, without changing the meaning.

The 2019 visual summaries were developed following a process to develop a systemic anticancer therapy algorithm.

Minor changes since publication

February 2026: We added links to relevant technology appraisal guidance in the section on management. Recommendation 1.2.12 has been amended to change from single mutation testing to current standard practice, which is comprehensive next generation sequencing (NGS) panels through genomic laboratory hubs. We also simplified the guideline by removing recommendations on general principles of care that are covered in other NICE guidelines.

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