

# Cancer of the upper aerodigestive tract: assessment and management in people aged 16 or over

NICE guideline

Published: 10 February 2016

Last updated: 6 June 2018

[www.nice.org.uk/guidance/ng36](https://www.nice.org.uk/guidance/ng36)

# 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

Overview .....	4
Who is it for? .....	4
Recommendations.....	5
1.1 Information and support .....	6
1.2 Investigation.....	7
1.3 Treatment of early-stage disease.....	8
1.4 Response assessment after chemoradiotherapy .....	9
1.5 Treatment of advanced disease .....	10
1.6 HPV-related disease .....	13
1.7 Less common upper aerodigestive tract cancers .....	14
1.8 Optimising rehabilitation and function.....	16
1.9 Follow-up for people with cancer of the upper aerodigestive tract.....	17
1.10 Management of osteoradionecrosis .....	17
Terms used in this guideline.....	17
Recommendations for research .....	19
Key recommendations for research .....	19
Other recommendations for research .....	21
Rationale and impact.....	24
Response assessment after chemoradiotherapy .....	24
Finding more information and committee details.....	26
Update information .....	27

This guideline is the basis of QS146.

# Overview

This guideline covers assessing and managing cancers of the upper aerodigestive tract in people aged 16 or over. These are cancers of the airways of the head and neck, including the mouth, throat, larynx (voicebox) and sinuses. The guideline aims to reduce variation in practice and improve survival.

For recommendations on when to refer people from primary care to a specialist, see the [NICE guideline on recognition and referral for suspected cancer](#).

## Who is it for?

- Healthcare professionals working in secondary and tertiary care
- People aged 16 or over with cancer of the upper aerodigestive tract, and their families and carers

# Recommendations

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](#).

[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.

Health and social care professionals should follow our general guidelines for people delivering care:

- [Tobacco](#)
- [Improving outcomes in head and neck cancer](#)
- [Patient experience in adult NHS services](#)
- [Improving supportive and palliative care for adults with cancer](#)
- [Care of dying adults in the last days of life](#)
- [End of life care for adults: service delivery](#)

### Stages of upper aerodigestive tract cancer

The stages of upper aerodigestive tract cancer referred to in this guideline are based on the TNM classification 7th Edition:

- T0: this means there is no primary tumour, but there may be abnormal cells that are precancerous.
- T1 to T4: this refers to the increasing size and/or extent of the primary tumour, with 1 being smallest and 4 largest.
- N0: no lymph nodes contain cancer cells.
- N1 and upwards: increasing involvement of lymph nodes by cancer cells.

## 1.1 Information and support

### Information needs

1.1.1 Offer information about human papillomavirus (HPV) to people with HPV-related cancer of the upper aerodigestive tract. [2016]

### Smoking cessation

1.1.2 Inform patients and carers at the point of diagnosis about how continuing to smoke adversely affects outcomes such as:

- treatment-related side effects
- risk of recurrence
- risk of second primary cancers. [2016]

1.1.3 Offer help to people to stop smoking, in line with NICE's guideline on tobacco: preventing uptake, promoting quitting and treating dependence. [2016]

## 1.2 Investigation

### Assessment of neck lumps

- 1.2.1 Consider adding ultrasound-guidance to fine-needle aspiration cytology or core biopsy for people with a neck lump that is suspected of being cancer of the upper aerodigestive tract. **[2016]**
- 1.2.2 Consider having a cytopathologist or biomedical scientist assess the cytology sample adequacy when the procedure is carried out. **[2016]**

### Identifying the occult primary

- 1.2.3 Consider a fluorodeoxyglucose positron emission tomography (FDG PET)-CT scan as the first investigation to detect the primary site in people with metastatic nodal squamous cell carcinoma of unknown origin that is thought to arise from the upper aerodigestive tract. **[2016]**
- 1.2.4 Consider using narrow-band imaging endoscopy to identify a possible primary site when it has not been possible to do so using FDG PET-CT. **[2016]**
- 1.2.5 Offer a biopsy to confirm a possible primary site. **[2016]**
- 1.2.6 Offer surgical diagnostic assessment if FDG PET-CT does not identify a possible primary site. This may include:
  - guided biopsies
  - tonsillectomy
  - tongue base mucosectomy. **[2016]**
- 1.2.7 Consider an MRI or CT scan before diagnostic surgery to help with planning radiotherapy treatment. **[2016]**

## Clinical staging – who and how?

- 1.2.8 Offer systemic staging (see recommendations 1.2.9 to 1.2.11) to all people with cancer of the upper aerodigestive tract except those with T1N0 or T2N0 disease. **[2016]**
- 1.2.9 Offer FDG PET-CT to people with T4 cancer of the hypopharynx or nasopharynx. **[2016]**
- 1.2.10 Offer FDG PET-CT to people with N3 cancer of the upper aerodigestive tract. **[2016]**
- 1.2.11 Offer conventional imaging (for example, chest CT) to people with cancer of the upper aerodigestive tract if they need systemic staging (see recommendation 1.2.8) and FDG PET-CT is not indicated for them. **[2016]**

## 1.3 Treatment of early-stage disease

### Squamous cell carcinoma of the larynx

- 1.3.1 Offer transoral laser microsurgery to people with newly diagnosed T1a squamous cell carcinoma of the glottic larynx. **[2016]**
- 1.3.2 Offer a choice of transoral laser microsurgery or radiotherapy to people with newly diagnosed squamous cell carcinoma of the glottic larynx (grade T1b to T2). **[2016]**
- 1.3.3 Offer a choice of transoral surgery or radiotherapy to people with newly diagnosed squamous cell carcinoma of the supraglottic larynx (grade T1b to T2). **[2016]**

## Management of the N0 neck in grade T1 to T2 squamous cell carcinoma of the oral cavity

- 1.3.4 Offer surgical management of the neck to all people with early oral cavity cancer (grade T1 to T2, N0). **[2016]**
- 1.3.5 Offer sentinel lymph node biopsy instead of elective neck dissection to people with early oral cavity cancer (grade T1 to T2, N0), unless they need cervical access at the same time (for example, free-flap reconstruction). **[2016]**

## Squamous cell carcinoma of the oropharynx (grade T1 to T2, N0)

- 1.3.6 Offer people the choice of transoral surgical resection or primary radiotherapy for tumours of the oropharynx (grade T1 to T2, N0). **[2016]**
- 1.3.7 Consider postoperative radiotherapy, with or without concomitant chemotherapy, for tumours of the oropharynx (grade T1 to T2, N0) if pathologically adverse risk factors have been identified. **[2016]**

## 1.4 Response assessment after chemoradiotherapy

- 1.4.1 Offer FDG PET-CT to guide management for people treated with radical chemoradiotherapy who have:
  - an oropharyngeal primary cancer site **and**
  - 2 or more positive nodes in the neck, all of which are less than 6 cm across. **[2018]**
- 1.4.2 Consider FDG PET-CT to guide management for people treated with radical chemoradiotherapy who have:
  - an oropharyngeal primary site with 1 positive node in the neck that is less than 6 cm across **or**
  - an oropharyngeal primary site with 1 or more positive nodes in the neck that

is larger than 6 cm across **or**

- a hypopharyngeal or laryngeal primary site with 1 or more positive nodes in the neck. **[2018]**

1.4.3 For people having an FDG PET-CT scan after chemoradiotherapy, perform the scan 3 to 6 months after chemoradiotherapy has finished. **[2018]**

1.4.4 Do not offer neck dissection to people with no abnormal FDG uptake or residual soft tissue mass on an FDG PET-CT scan. **[2018]**

For a short explanation of why the committee made the 2018 recommendations and how they might affect practice, see the [rationale and impact section on response assessment after chemoradiotherapy](#).

Full details of the evidence and the committee's discussion are in [evidence review A: treatment of advanced disease](#).

## 1.5 Treatment of advanced disease

### Squamous cell carcinoma of the larynx

1.5.1 Offer people with T3 squamous cell carcinoma of the larynx a choice of:

- radiotherapy with concomitant chemotherapy **or**
- surgery with adjuvant radiotherapy, with or without concomitant chemotherapy. **[2016]**

1.5.2 Discuss the following with people with T3 squamous cell carcinoma of the larynx and their carers, to inform their choice of treatment:

- the potential advantages of laryngeal preservation
- the risk of needing salvage laryngectomy (and its associated complications)

- the benefits of primary surgery in people with existing compromised swallowing and airway function
  - likely voice and swallowing function after treatment (including the need for a long-term feeding tube). **[2016]**
- 1.5.3 For people with T4a squamous cell carcinoma of the larynx consider surgery with adjuvant radiotherapy, with or without concomitant chemotherapy. **[2016]**

## Squamous cell carcinoma of the hypopharynx

- 1.5.4 Offer larynx-preserving treatment to people with locally advanced squamous cell carcinoma of the hypopharynx if:
- radiation with neo-adjuvant chemotherapy, with concomitant chemotherapy, or with both, would be suitable for them **and**
  - they do not have:
    - tumour-related dysphagia needing a feeding tube
    - a compromised airway
    - recurrent aspiration pneumonias. **[2016]**
- 1.5.5 Offer radiotherapy with neo-adjuvant chemotherapy, with concomitant chemotherapy, or with both, if larynx-preserving treatment is suitable for the person. **[2016]**
- 1.5.6 Offer primary surgery followed by adjuvant radiotherapy to people if chemotherapy is not a suitable treatment for them. **[2016]**
- 1.5.7 Offer adjuvant radiotherapy to people having surgery as their primary treatment. Add concomitant chemotherapy if appropriate. **[2016]**

## Systemic anticancer therapy for squamous cell carcinoma of the head and neck (oropharynx, hypopharynx, larynx or oral cavity)

### Locally advanced

- 1.5.8 Cetuximab in combination with radiotherapy is recommended as an option in NICE technology appraisal guidance for treating people with locally advanced squamous cell cancer of the head and neck whose Karnofsky performance-status score is 90% or greater and in whom platinum-based chemoradiotherapy treatment is contraindicated. For full details, see the [guidance on cetuximab \(TA145, 2008\)](#).

### Recurrent or metastatic

- 1.5.9 Pembrolizumab monotherapy is recommended as an option in NICE technology appraisal guidance for untreated metastatic or unresectable recurrent head and neck squamous cell carcinoma in adults whose tumours express PD-L1 with a combined positive score of 1 or more. It should be stopped at 2 years of uninterrupted treatment, or earlier if disease progresses. For full details, see the [guidance on pembrolizumab \(TA661, 2020\)](#).
- 1.5.10 Nivolumab monotherapy is recommended as an option in NICE technology appraisal guidance for treating recurrent or metastatic squamous cell carcinoma of the head and neck in adults, only if the disease has progressed within 6 months of platinum-based chemotherapy. For full details, see the [guidance on nivolumab \(TA736, 2021\)](#).
- 1.5.11 Cetuximab in combination with platinum-based chemotherapy is recommended as an option in NICE technology appraisal guidance for treating recurrent or metastatic squamous cell cancer of the head and neck in adults, only if the cancer started in the oral cavity. For full details, see the [guidance on cetuximab \(TA473, 2017\)](#).

## Palliation of breathing difficulties

- 1.5.12 Identify people at risk of airways obstruction for whom intervention is appropriate. Think about:
- their performance status
  - treatment side effects and length of hospital stay
  - involving the palliative care team and other specialists when appropriate.
- [2016]
- 1.5.13 Consider endoluminal debulking in preference to tracheostomy. [2016]
- 1.5.14 Establish a management plan if surgical intervention is not appropriate, in conjunction with the person, carers and clinical staff. [2016]
- 1.5.15 Assess and treat other causes of breathlessness in people with incurable upper aerodigestive tract cancer. [2016]

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

- 1.5.16 Larotrectinib is recommended as an option in NICE technology appraisal guidance 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 the guidance on larotrectinib (TA630, May 2020).

## 1.6 HPV-related disease

### HPV testing

- 1.6.1 Test all squamous cell carcinomas of the oropharynx using p16 immunohistochemistry. Regard the p16 test result as positive only if there is

strong nuclear and cytoplasmic staining in more than 70% of tumour cells. [2016]

- 1.6.2 Consider high-risk HPV DNA or RNA in-situ hybridisation in all p16-positive cancers of the oropharynx to confirm HPV status. [2016]

## De-intensification of treatment

- 1.6.3 Do not offer de-intensification of curative treatment to people with HPV-positive cancer of the oropharynx, unless it is part of a clinical trial. [2016]

# 1.7 Less common upper aerodigestive tract cancers

## Carcinoma of the nasopharynx

- 1.7.1 Offer intensity-modulated radiation therapy with concomitant chemotherapy to people with locally-advanced (stage 2 and above) nasopharyngeal cancer. [2016]
- 1.7.2 Consider adjuvant or neo-adjuvant chemotherapy for people with locally-advanced (stage 2 and above) nasopharyngeal cancer. [2016]

## Carcinoma of the paranasal sinuses

- 1.7.3 Offer surgery as the first treatment for carcinoma of the paranasal sinuses if complete resection is possible. [2016]
- 1.7.4 Consider radiotherapy with or without concomitant chemotherapy before planned surgical resection of the paranasal sinuses if complete resection is not initially possible. [2016]

## Unknown primary of presumed upper aerodigestive tract origin

- 1.7.5 Offer people with squamous cell carcinoma in the cervical lymph nodes with an unknown primary the choice of:
- neck dissection and adjuvant radiation with or without chemotherapy **or**
  - primary radiation with or without chemotherapy, with surgery for persistent disease. **[2016]**
- 1.7.6 Consider no further treatment as an option in people with pN1 disease without extracapsular spread after neck dissection. **[2016]**
- 1.7.7 Consider including potential primary tumour sites when selecting the volume to be treated with radiotherapy. **[2016]**

## Mucosal melanoma

- 1.7.8 Consider surgery and adjuvant radiotherapy for people with newly-diagnosed upper aerodigestive tract mucosal melanoma without systemic metastases. **[2016]**

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

- 1.7.9 Larotrectinib is recommended as an option in NICE technology appraisal guidance 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 the guidance on larotrectinib (TA630, May 2020).

## 1.8 Optimising rehabilitation and function

### Enteral nutrition support

- 1.8.1 Assess people's need for enteral nutrition at diagnosis, including prophylactic tube placement. The multidisciplinary team should take into account:
- performance status and social factors
  - nutritional status (weight loss, high or low BMI, ability to meet estimated nutritional needs)
  - tumour stage
  - tumour site
  - pre-existing dysphagia
  - impact of planned treatment (such as radiation treatment volume and dose-fractionation, concomitant chemotherapy, and extent and site of surgery). **[2016]**
- 1.8.2 Follow the recommendations in NICE's guideline on nutrition support for adults. **[2016]**

### Speech and language therapy interventions

- 1.8.3 Consider swallowing-exercise programmes for people having radiotherapy. **[2016]**
- 1.8.4 Consider mouth-opening exercises for people having radiotherapy who are at risk of reduced mouth opening. **[2016]**
- 1.8.5 Consider voice therapy for people whose voice has changed because of their treatment. **[2016]**

## Shoulder rehabilitation

1.8.6 Consider progressive resistance training for people with impaired shoulder function, as soon as possible after neck dissection. [2016]

## 1.9 Follow-up for people with cancer of the upper aerodigestive tract

1.9.1 Give people with cancer of the upper aerodigestive tract and their carers tailored information about the symptoms of recurrence and late effects of treatment at the end of curative therapy. [2016]

1.9.2 Consider structured, risk-adapted follow-up using locally-agreed protocols for people who have had curative treatment for cancer of the upper aerodigestive tract. Use the follow-up protocols to:

- help improve quality of life, including discussing psychosocial issues
- detect disease recurrence or second primary cancer, possibly including narrow-band imaging to improve detection. [2016]

## 1.10 Management of osteoradionecrosis

1.10.1 Consider surgery to remove necrotic bone and to establish soft tissue coverage in people with osteoradionecrosis. [2016]

1.10.2 Only consider hyperbaric oxygen therapy or medical management for treating osteoradionecrosis as part of a clinical trial. [2016]

## Terms used in this guideline

### Radical chemotherapy

The term 'radical chemoradiotherapy' refers to treatment aiming to cure cancer rather than

to relieve symptoms (palliative treatment). It is used here to reflect the evidence that these recommendations are based on.

# Recommendations for research

The 2016 guideline committee made the following recommendations for research, marked [2016]. The guideline committee's full set of recommendations for research are detailed in the full version of the guideline. As part of the 2018 update, the standing committee made further research recommendations, marked [2018]. Full details of these can be found in evidence review A.

## Key recommendations for research

### 1 Indeterminate FDG PET-CT after radical chemoradiotherapy: long-term outcomes

What are the long-term outcomes for people with an indeterminate fluorodeoxyglucose positron emission tomography (FDG PET)-CT scan result (a residual mass with no abnormal FDG uptake) after radical chemoradiotherapy?

#### Why this is important

People with indeterminate FDG PET-CT results receive neck dissection surgery according to current practice in the UK. However, there is no standardised practice on long-term follow-up for people with negative disease and persistent nodes on FDG PET-CT scan. Research to investigate long-term outcomes could improve clinical outcomes and efficient use of resources. Randomised controlled trials or prospective cohort studies would be used to answer this research question. Outcomes of interest include recurrence rates, overall survival, quality of life, surgical complications, and adverse events. [2018]

### 2 Indeterminate FDG PET-CT after radical chemoradiotherapy: investigations

What are the most appropriate investigations for people with an indeterminate FDG PET-CT scan result (a residual mass with no abnormal FDG uptakes) after radical chemoradiotherapy?

## Why this is important

People with indeterminate FDG PET-CT results receive neck dissection surgery according to current practice in the UK. However, there is no standardised practice on long-term follow-up for people with negative disease and persistent nodes on FDG PET-CT scan. Research to identify appropriate investigations could improve clinical outcomes and efficient use of resources. Randomised controlled trials or prospective cohort studies would be used to answer this research question. Investigations include interval FDG PET-CT, ultrasound with or without biopsy, multi-parametric MRI, and serial imaging. [2018]

## 3 Management of nodal metastasis in nasopharynx cancer after chemoradiotherapy

What is the optimal management strategy of nodal metastasis in nasopharynx cancer after chemoradiotherapy?

### Why this is important

There is evidence that FDG PET-CT is cost-saving, prevents unnecessary surgeries and reduces recurrence and overall mortality compared with neck dissection surgery in people who have received chemoradiotherapy. However, the evidence is only for people with oropharyngeal, laryngeal and hypopharyngeal cancer and there is no evidence on people with nasopharynx cancer. Natural history and response to treatment of cervical nodal metastases from nasopharynx primary sites are different, in terms of their impact on prognosis (TNM 7 cancer staging manual), and nasopharynx cancer is highly sensitive to radiotherapy and should not be treated by neck dissection (PET-NECK NIHR report). Research to investigate the optimal management of nodal metastasis in people with primary nasopharynx cancer after chemoradiotherapy could improve clinical outcomes and the use of resources. Outcomes of interest include recurrence rates, overall survival, quality of life, surgical complications, and adverse events. [2018]

## 4 Effectiveness of FDG PET-CT to guide follow-up

What is the effectiveness and cost-effectiveness of using FDG PET-CT to guide follow-up after treatment for people with head and neck cancer?

## Why this is important

There is evidence that FDG PET-CT is cost-saving, prevents unnecessary surgeries and has similar results for recurrence and overall mortality compared with neck dissection surgery in people with oropharyngeal, laryngeal and hypopharyngeal cancer who have received chemoradiotherapy. However, there is no evidence on FDG PET-CT for follow-up after other head and neck cancer treatments. Research to investigate the effectiveness of FDG PET-CT to guide follow-up could improve clinical outcomes and the use of resources. Outcomes of interest include recurrence rates, overall survival, and quality of life. [2018]

## 5 Systemic imaging – who and why?

What factors determine the risk of a person presenting with cancer of the upper aerodigestive tract having metastasis or a second primary cancer?

### Why this is important

Outcomes of interest include prevalence, predictive value and how the abnormalities identified influence patient management. The presence of metastasis or a synchronous second primary cancer at presentation is rare in patients with cancer of the upper aerodigestive tract. Subgroups of patients have been identified in whom the risk is clearly elevated. However, it is not clear at which level of risk detailed staging investigations are justified and the impact the results of these would have on decision making by the clinicians and the patient. Health economic modelling is needed to inform this process.

[2016]

## Other recommendations for research

## 6 HPV testing

What is the comparative effectiveness of single-step laboratory diagnostic tests to identify human papillomavirus (HPV) against current diagnostic test algorithms and reference standards in people with cancer of the oropharynx?

### Why this is important

Outcomes of interest are sensitivity, specificity and resource use. HPV testing is currently

recommended in cancer of the oropharynx because it has significant prognostic implication. Current methods use a 2-step procedure that is not widely available in all treatment centres. A single-step test is likely to be more widely adopted and could have significant budgetary implications for the NHS. The study should also consider the prognostic value and the economic benefits of novel tests. [2016]

## 7 Unknown primary of presumed upper aerodigestive tract origin

In people with cancer of the upper aerodigestive tract of unknown primary, can radiotherapy target volumes be selected based on clinical and pathological factors?

### Why this is important

Outcomes of interest include local control, progression-free survival, overall survival, and treatment-related morbidity and mortality. In a very small percentage of patients with squamous carcinoma involving a cervical lymph node the primary site remains occult despite intensive investigations. The optimum treatment for these patients is uncertain. Some clinical teams will treat the neck disease alone and others will treat some or all potential primary sites with the radiotherapy with or without chemotherapy. The latter strategy is associated with a high level of side effects that may have lifelong consequences, for example xerostomia. A better understanding of the clinic-pathological factors associated with treatment outcomes would improve treatment selection with the potential to reduce these side effects. [2016]

## 8 Enteral nutrition support

What specific clinical and non-clinical factors allow risk stratification when selecting which people with cancer of the upper aerodigestive tract would benefit from short- or long-term enteral nutrition?

### Why this is important

Outcomes of interest include resource use, morbidity of tube placement, duration of enteral feeding and nutritional status. There are no nationally agreed selection criteria for the type of feeding tube placed at diagnosis for people who need enteral nutrition support during curative treatment. Variation across the UK exists as a result of clinician-led practices and local policy. The systematic review by NICE in 2015 found some evidence but no specific list was identified because of limitations with study design, and inability to

stratify clinical and non-clinical factors meaningfully. These factors included restricted populations for tumour staging, patient demographics, treatment plan and intent, definitions of malnutrition, timing and method of tube placement, and duration of enteral nutrition. [2016]

## 9 Follow-up

What is the optimal method, frequency and duration of follow-up for people who are disease-free after treatment for cancer of the upper aerodigestive tract?

### Why this is important

Outcomes of interest include quality of life, local control and overall survival. The optimal methods, frequency, and duration of follow-up in people who are clinically disease-free and who have undergone treatment for squamous cell cancer of the upper aerodigestive tract with curative intent are not known. Considerable resources are expended throughout the country on the follow-up of people who have completed potentially curative treatment. Local follow-up protocols are based more on historical practice than evidence and are often disease- rather than patient-centred. Research to investigate how and when follow-up should optimally be carried out could improve clinical outcomes and the use of resources. [2016]

# Rationale and impact

## Response assessment after chemoradiotherapy

### Recommendations 1.4.1 to 1.4.4

### Why the committee made the recommendations

Overall, the evidence showed that recurrence rates and overall mortality for fluorodeoxyglucose positron emission tomography (FDG PET)-CT-guided management after radical chemoradiotherapy were similar to those for neck dissection. In addition, the evidence showed that FDG PET-CT was cost-saving compared with neck dissection, and would prevent unnecessary surgeries, surgical complications, and adverse events.

The committee agreed to make recommendations only for people with oropharyngeal, laryngeal and hypopharyngeal primary sites, because these were the main focus of the evidence. Most of the people in the study had an oropharyngeal primary site and more than 1 positive node under 6 cm across in the neck, and the evidence was strongest for this population. Therefore, the committee agreed that they should be offered an FDG PET-CT scan.

The evidence was weaker for people with:

- an oropharyngeal primary site and 'N2a' stage disease (only 1 positive node of more than 3 cm but no more than 6 cm across)
- an oropharyngeal primary site and higher 'N' stage disease (1 or more positive node larger than 6 cm across in the neck)
- laryngeal or hypopharyngeal primary sites.

To reflect this, FDG PET-CT scanning could be considered for these groups.

The evidence did not include people with an oropharyngeal primary site and 'N1' stage disease (only 1 positive node of less than 3 cm across). However, the committee agreed that it is particularly important that FDG PET-CT scans are considered for this population to avoid unnecessary surgery. These people are likely to be at a lower risk of recurrence

and so the benefits of neck dissection are lower.

The committee noted that new classifications for head and neck cancer ([TNM classification of malignant tumours, 8th edition](#)) have been introduced, which are different from those used in the evidence. They decided to describe the stage of cancer for these recommendations in terms of the number and size of positive nodes to avoid confusion.

The timing of FDG PET-CT scans (3 to 6 months after completion of radical chemoradiotherapy) is in line with current [Royal College of Radiologists guidelines on the use of PET-CT](#). Scans earlier than 3 months are more likely to give a false-positive result, due to the residual effects of treatment.

The committee decided to be specific that neck dissection should not be offered to people with no abnormal FDG uptake or residual soft tissue mass, to give clear advice about how to interpret a 'negative' FDG PET-CT result.

The committee noted several areas in which future research would be helpful, such as management for people with indeterminate test results (see [recommendations for research 1 and 2](#)), the role of FDG PET-CT for people with nasopharyngeal cancer (see [recommendation for research 3](#)) and the effectiveness of FDG PET-CT to guide follow-up (see [recommendation for research 4](#)).

## How the recommendations might affect practice

There may be an increase in the number of FDG PET-CT scans performed and a reduction in surgical procedures. However, the evidence showed that the amount of money saved from unnecessary surgery is likely to be considerably higher than the cost of the additional scans.

Full details of the evidence and the committee's discussion are in [evidence review A: treatment of advanced disease](#).

## Finding more information and committee details

To find NICE guidance on related topics, including guidance in development, see the [NICE topic page on head and neck cancers](#).

For full details of the evidence and the guideline committee's discussions, see the [full guideline and evidence review A](#). 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 our guidelines into practice, see [resources to help you put NICE guidance into practice](#).

# Update information

**June 2018:** We reviewed the evidence on response assessment after chemoradiotherapy and added new recommendations and recommendations for research.

Recommendations are marked as **[2018]** or **[2016]**.

**[2018]** indicates that the evidence was reviewed and the recommendation added in 2018.

**[2016]** indicates that the evidence was last reviewed in 2016.

## Minor changes since publication

**January 2026:** We removed links to NICE's technology appraisal guidance on entrectinib for treating NTRK fusion-positive solid tumours from the sections on systemic anticancer therapy for squamous cell carcinoma of the head, and neck and less common aerodigestive tract cancers. This is because this technology appraisal guidance has been withdrawn.

We also added links to relevant technology appraisal guidance in the sections on systemic anticancer therapy for squamous cell carcinoma of the head and neck airways and less common aerodigestive tract cancers. We also simplified the guideline by removing recommendations on general principles of care that are covered in other NICE guidelines.

ISBN: 978-1-4731-1661-0