Welcome to this NDRS training module on Head & Neck tumours of the oral cavity, larynx and thyroid, which has been designed to help Cancer Administration staff gain a better understanding of the diseases and the terminology used by the clinical teams.

Agenda

- Introduction
- Head & Neck tumours – Oral cavity, Larynx & Thyroid
- Summary
- Acknowledgements

This module may be paused at any time

We're going to give you a brief introduction to Head & Neck tumours, including some of the symptoms that patients might experience. We'll look at the anatomy & physiology and we'll then go through diagnosis & treatment options. This module can be paused at any time.

Introduction

In this section we will cover:

- Types of Head & Neck tumour

Firstly, we'll look at the various types of tumour in the head & neck area…

Introduction

The head and neck region is comprised of areas of the body that deal with, amongst other things, air intake and food consumption:

- Oral cavity – from the lips to the area behind the wisdom teeth. Includes salivary glands
- Pharynx – the throat, subcategorised as the nasopharynx, oropharynx and hypopharynx (sometimes called the laryngopharynx)
- Larynx - the voice box
- Thyroid – the endocrine gland in the throat that helps regulate heart rate, blood pressure and metabolism
- Nasal cavity – includes the nasal and paranasal sinuses

The Head & Neck cancer site encompasses those areas usually associated with air- and food-intake including the nasal cavity, oral cavity and throat (also known as the Pharynx). It also the covers the larynx and thyroid.
This module will focus on tumours of the oral cavity, larynx and thyroid – Pharynx and nasal cavity are covered in a separate module.
Please note that tumours of the bone, brain and other soft tissues are not included in the head and neck tumour site.

Head & Neck
Oral Cavity, Larynx & Thyroid

In this section we will cover:

- Causes and Risk Factors
- Signs and Symptoms
- Anatomy & Physiology
- Regional Lymph Nodes
- Diagnosis
- Morphology
- ICD10 coding
- Grade
- Stage
- Treatment

We'll start off by looking at the causes and risk factors …

Head & Neck – Causes & Risk Factors

	Oral Cavity	Larynx	Thyroid
Smoking / other oral tobacco use	X	X	
Alcohol	X	X	
Diet	X	X	
Sun Exposure	X		
HPV	X		
Immunosuppression		X	
Gastro-oesophageal reflux and Helicobacter pylori		X	
Family History			X
Thyroid Disease			X
Radiation Exposure			X

… which vary depending on the tumour site: Sun exposure may be a risk factor for tumours of the outer lip, while smoking and alcohol are risk factors for both oral cavity and laryngeal tumours. Risk factors for thyroid tumours include family history and radiation exposure.

Head & Neck – Signs & Symptoms

Oral Cavity – includes:

- Mouth ulcers
- Discomfort or pain in the mouth
- White or red patches
- A lump in the neck
- Halitosis

Larynx – includes:

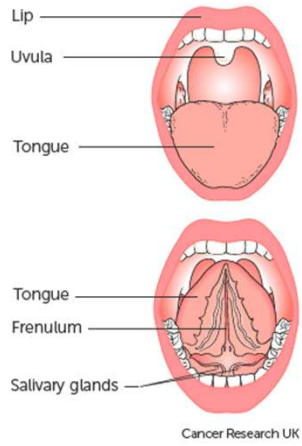
- Lump in the throat
- Hoarse voice
- Dysphagia (difficulty swallowing)
- Weight loss
- Persistent cough

Thyroid – includes:

- Painless lump low in the front of the neck
- Non-resolving hoarseness of the voice
- Non-resolving difficulty in swallowing
- Enlarged lymph nodes in the neck

Symptoms of a tumour in the oral cavity can include mouth ulcers, pain or bad breath while a patient with a laryngeal or thyroid tumour may present with a hoarse voice or difficulty swallowing.

Head & Neck – Anatomy & Physiology – Oral Cavity



- Mucosa of lip
- Gingiva - gums
- Buccal mucosa – inside of the cheek
- Hard palate – roof of the mouth
- Floor of mouth
- Tongue – front 2/3 (the back 1/3 is classified as part of the oropharynx)
- Minor salivary glands
- Retromolar trigone – the area behind the wisdom teeth
- Mucous membranes – line the entire cavity

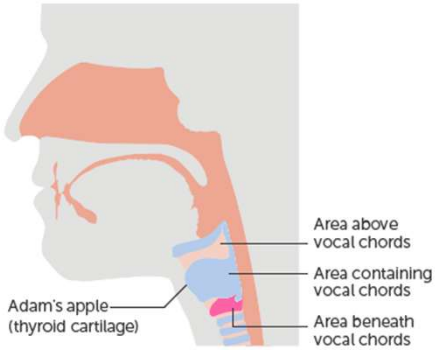
The whole of the mouth is lined by a continuous lining of mucous membranes, all of which is exposed to the same carcinogens and for this reason, multiple separate malignancies can occur

Head & Neck – Anatomy & Physiology – Larynx

The larynx is at the entrance of the trachea and in front of the oesophagus . The larynx consists of three areas:

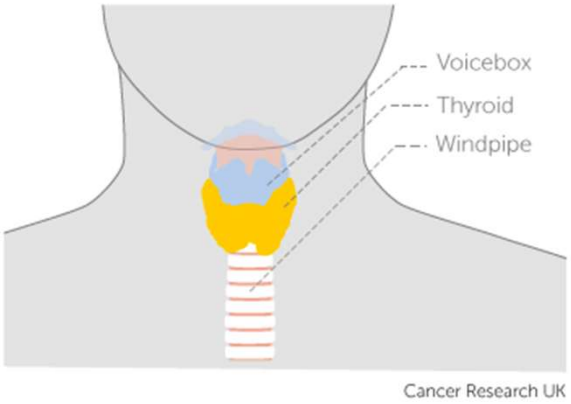
- Supraglottis (the area above the vocal chords)
- Glottis (the term for the opening between the vocal chords)
- Subglottis (the area beneath the vocal chords)

The larynx allows air to pass into the lungs, but prevents food from entering the lungs. It contains two vocal cords which vibrate as air passes through them, producing sound



The larynx sits in front of the oesophagus and consists of three areas: In the middle is the Glottis, the space between the vocal chords. Above that is the Supraglottis and below it the Subglottis.

Head & Neck – Anatomy & Physiology – Thyroid



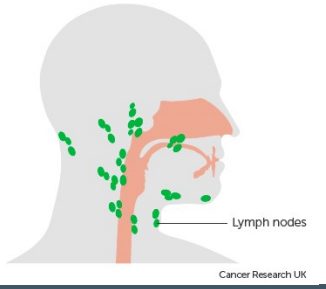
The thyroid is one of the largest glands of the endocrine system. It sits just below the larynx

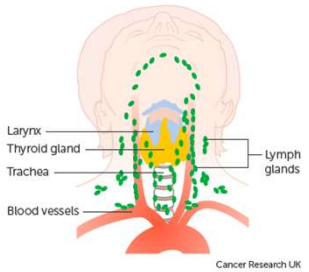
- It consists of two lobes which are connected by a narrow band of tissue called the isthmus
- The thyroid uses iodine to produce hormones which regulate metabolism

Just below the larynx is the thyroid gland, a butterfly shaped organ that regulates our metabolism

Head & Neck – Regional Lymph Nodes

Oral Cavity	Larynx	Thyroid
• Cervical	• Cervical	• Cervical • Upper Mediastinal



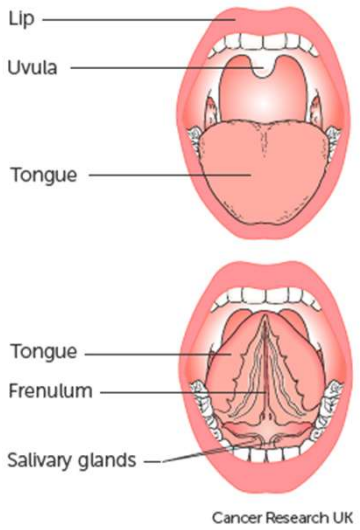


Of the approximately 800 lymph nodes in the average human body, over 300 are located in the head and neck area. Lymph nodes regarded as regional for the Oral cavity, Larynx and Thyroid are listed here. Other lymph nodes would be regarded as distant.

Head & Neck – Diagnosis – Oral Cavity

Oral Cavity

- X-ray
- CT scan
- PET – CT scan
- MRI scan
- Nasendoscopy
- Panendoscopy
- Biopsy (examination of solid tissue under a microscope)
- Cytology (examination of cells from a fluid sample under a microscope)



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Diagnosis of an oral cavity tumour may be via endoscopic procedures and imaging but may also require cytology or a biopsy…

Head & Neck – Diagnosis - Larynx

Larynx

- Ultrasound
- Laryngoscopy
- Transnasal oesophagoscopy (used to take video of the nose, throat & larynx)
- Videolaryngoscopy (records the movement of vocal chords while speaking)
- CT scan
- MRI scan
- PET/CT scan
- Fine needle aspirate (FNA) biopsy

… and tests for Laryngeal tumours can include an Ultrasound scan, endoscopy, additional imaging and possibly a fine needle aspirate from the lymph nodes…

Head & Neck – Diagnosis - Thyroid

Thyroid

- Ultrasound scan
- Biopsy
- CT scan
- MRI scan
- Thyroid uptake scan
- PET scan

… while imaging and possibly biopsy are the usual diagnostic tests for thyroid tumours

Head & Neck – Morphology – Oral Cavity

Squamous Cell Carcinoma is the most common morphology arising in the oral cavity – M8070/3

The are approximately 600 – 1000 minor salivary glands in the mouth, these are glandular cells which can give rise to various morphologies, including (but not limited to):

- Adenocarcinoma – M8140/3
- Mucoepidermoid carcinoma – M8430/3
- Adenoid cystic carcinoma – M8200/3
- Secretory carcinoma – M8502/3
- Salivary duct carcinoma - M8500/3
- Polymorphous low-grade adenocarcinoma – M8525/3

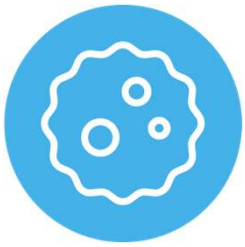
The most common morphology in the oral cavity is Squamous cell carcinoma. However, salivary glands in particular may also give rise to other types of tumour such as adenocarcinoma

Head & Neck – Morphology – Larynx

Most malignancies of the larynx are squamous cell carcinomas – M8070/3

Sub-types include:

- Verrucous – M8051/3
- Basaloid – M8083/3
- Papillary – M8052/3
- Spindle cell – M8074/3
- Adenosquamous – M8560/3
- Lymphoepithelial carcinoma - M8082/3



Rare cancers of the larynx include:

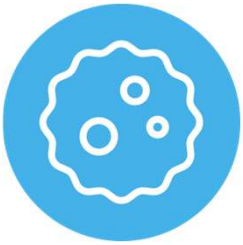
- Neuroendocrine neoplasms – various morphologies including
  - Small cell neuroendocrine carcinoma – M8041/3
  - Well-differentiated neuroendocrine tumour, Grade 1 / Carcinoid tumours – M8240/3

Squamous cell carcinomas are also the most common morphology found in the Larynx although other types are found in rare instances…

Head & Neck – Morphology – Thyroid

There are four main types of carcinoma that arise within the thyroid gland

- Papillary carcinoma – M8260/3 - this is the most common
- Follicular thyroid carcinoma - M8330/3
- *Non-invasive follicular papillary thyroid tumour – M8349/1*
- Medullary carcinoma – M8345/3
- Anaplastic carcinoma – M8021/3



Other, rarer types include:

- Oncocytic carcinoma of the thyroid / Hurthle cell carcinoma - M8290/3
- Sarcoma – various morphologies. Please refer to the Sarcoma training module
- Lymphoma – various morphologies. Please refer to the Lymphoma training module

Both modules are available at: https://digital.nhs.uk/ndrs/data/cancer-data-training-materials

*NIFPTTs do not require a COSD record - information on these tumours is collected via the trust pathology submissions

… while papillary carcinoma are the most common type found in the thyroid

Head & Neck – ICD10 coding – Invasive Lip, & Oral Cavity

- C00.* - Malignant neoplasm of lip
- C01X – Malignant neoplasm of base of tongue
- C02.* - Malignant neoplasm of other and unspecified parts of tongue
- C03.* - Malignant neoplasm of gum
- C04.* - Malignant neoplasm of floor of mouth
- C05.* - Malignant neoplasm of palate
- C06.* - Malignant neoplasm of other and unspecified parts of mouth
- C07X – Malignant neoplasm of parotid gland

- * - Final digit denotes location
- X – top level code only

ICD10 codes for head and neck tumours are primarily topographical, which is to say they describe where the tumour is. The ICD10 code groups for invasive tumours of the lip & oral cavity are shown here …

Head & Neck – ICD10 coding – Invasive
Lip, Oral Cavity & Pharynx

- C08.* – Malignant neoplasm of other and unspecified major salivary glands
- C09.* – Malignant neoplasm of tonsil
- C14.* - Malignant neoplasm of other and ill-defined sites in the lip, oral cavity and pharynx
- * - Final digit denotes location

… and here. Where an asterix is shown at the end of the code, this indicates that the final digit describes the location detail, while an X denotes a top level code only.

Head & Neck – ICD10 coding – Invasive - Other

- C32.* - Malignant neoplasm of larynx
- C73X - Malignant neoplasm of thyroid

- Also:
- C33X – Malignant neoplasm of trachea

Coding of invasive tumours for other head and neck sites (those not already covered in the Nasal cavity and Pharynx module) … is shown here

Head & Neck – ICD10 coding – Non-Invasive

- D00.0 – Carcinoma in-situ of lip, oral cavity & pharynx
- D02.0 – Carcinoma in-situ of larynx
- D09.3 – Carcinoma in-situ of thyroid and other endocrine glands
- D37.0 – Neoplasm of uncertain or unknown behaviour: Lip, oral cavity and pharynx
- D38.0 – Neoplasm of uncertain or unknown behaviour: Larynx
- D44.0 – Neoplasm of uncertain or unknown behaviour: Thyroid
- While your clinical team may request that D coded tumours are recorded, these do not currently require a COSD submission from your cancer data management system. NDRS obtains data on these tumours direct from pathology laboratories

ICD10 codes for non-invasive tumours for the oral cavity, larynx & thyroid are shown here. It should be noted that while the clinical team may request that these non-invasive tumours are recorded, we don't require a COSD record from your cancer data management system. We collect data on these head & neck tumours direct from the path labs

Head & Neck – Grade

Oral Cavity & Larynx

- Grade 1 (well differentiated / low grade) - Tumours look very similar to the normal tissue and retain a degree of functionality. Grade 1 tumours have the best prognosis
- Grade 2 (moderately differentiated / intermediate grade) - Tumours are formed of cells that somewhat resemble the normal tissue and retain limited functionality
- Grade 3 (poorly differentiated / high grade) - Tumours have very abnormal cells with little or no functionality. Grade 3 tumours have the worst prognosis

There is no grading system for thyroid tumours

While there's no grading system for thyroid tumours, the grade of both oral cavity and laryngeal tumours is determined by comparing the appearance of tumour cells against normal, healthy cells.
A grade number or description may then be assigned.

Head & Neck – Stage

- Invasive tumours are staged as follows:
  - For diagnosis dates up to 31st December 2025 use UICC TNM v8
  - For diagnosis dates from 1st January 2026 use UICC TNM v9
- Please note that the TNM version must be accurately recorded – if you are unable to amend the version on your cancer data management system, please refer to your line manager
- If, after 1st January 2026, your cancer data management system has not been amended to include TNM v9 please record the TNM v9 stage and add the following statement to the Primary Diagnosis Subsidiary Comment field: Patient staged using TNM9 not TNM8 as per CR2070

Invasive neoplasms – those with a C prefix in their ICD10 code - are staged using the appropriate UICC TNM version.

Head & Neck – Stage

- For details on recording stage, please see the NDRS training module KPI-TNM Staging 101, available :

  https://digital.nhs.uk/ndrs/data/cancer-data-training-materials

- Staging data sheets can also be downloaded from the NDRS website for clinical use: https://digital.nhs.uk/ndrs/data/cancer-data-training-materials/staging-sheets

- Please note that malignant melanomas of the upper aerodigestive tract are aggressive and staged according to different criteria than non-melanoma tumours

For more details on recording stage, please see the NDRS training module KPI-TNM Staging 101 and the relevant staging data sheets, available on CancerStats

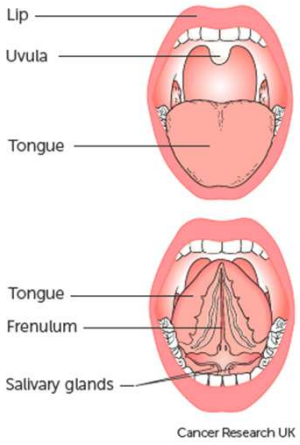
Head & Neck – Treatment – Oral Cavity - Surgery

Lip

- Local excision/Wide local excision
- Moh's – the tumour is removed in thin slices, with each slice being checked under a microscope during surgery. This reduces the amount of healthy tissue removed and is usually used for external tumours such as those on the outside of the lip

Tongue

- Local excision of lesion of tongue
- Partial glossectomy- removal of up to half of the tongue
- Total glossectomy – more than half



Surgery is a common treatment for some tumours of the oral cavity. This may be relatively minor surgery such as a local excision, or may require the surgical removal of all or part of the tongue…

Head & Neck – Treatment – Oral Cavity - Surgery

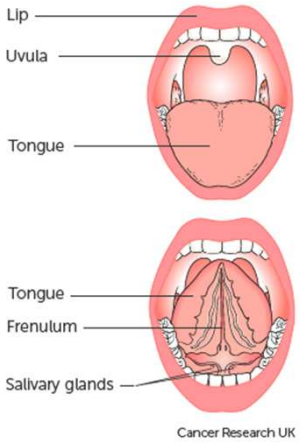
Buccal mucosa - Local excision/Wide local excision

Floor of mouth - Local excision/Wide local excision

Gum

- Gingivectomy – removal of all or part of the gum
- Mandibulectomy – removal of all or part of the lower jaw
- Maxillectomy - removal of all or part of the upper jaw

Hard palate - Local excision/Wide local excision



… or of other parts of the mouth.

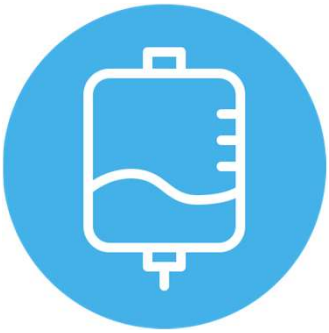
Head & Neck – Treatment – Oral Cavity - Radiotherapy

- Whilst surgery is the most frequent treatment in oral cavity cancer, radiotherapy is an alternative for some types of oral cancer as it may cure early stage tumours and avoid major surgery
- Radiotherapy may also be given as adjuvant or palliative treatment

Radiotherapy may be a suitable alternative to surgery depending on the type and stage of the tumour. It may also be offered adjuvantly or as a palliative treatment to control symptoms

Head & Neck – Treatment – Oral Cavity - Chemotherapy

- Chemotherapy is sometimes offered prior to surgery in order to shrink the tumour
- Chemotherapy may be offered in conjunction with Radiotherapy as an adjuvant treatment
- Chemotherapy may also be offered as a palliative treatment to control symptoms



Whilst not usually offered as an alternative to surgery, chemotherapy may be offered to… shrink a tumour prior to surgery … as an adjuvant treatment together with radiotherapy … or as a palliative treatment

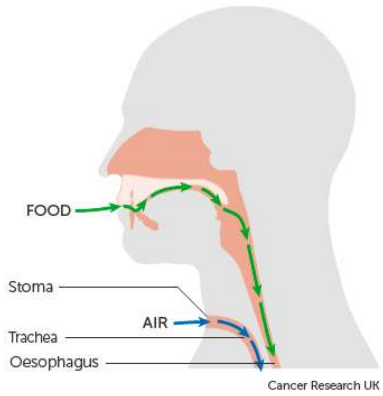
Head & Neck – Treatment – Larynx - Surgery

Early stage laryngeal cancer

- Treated with transoral laser resection of the larynx. This is an endoscopic laser procedure

More advanced laryngeal cancer

- Typically treated with radical surgery followed up with chemotherapy
- Partial Laryngectomy involves the removal of part of the larynx, possibly including one of the two vocal cords
- Total Laryngectomy involves the removal of the whole larynx



Patients with early stage laryngeal tumours may be offered a transoral resection, where a laser is passed through the mouth and down to the larynx to resect a small tumour. Later stage tumours are normally treated with a more radical surgical approach followed by chemotherapy

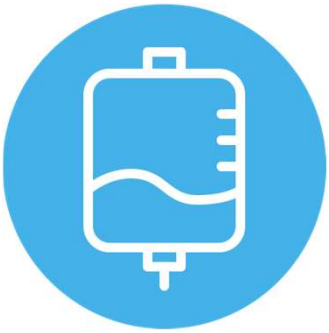
Head & Neck – Treatment – Larynx - Radiotherapy

- Radiotherapy and transoral laser surgery produce similar cure rates in early stage disease, enabling a patient to make a choice of preference
- Radiotherapy alone can cure more advanced lesions, but is also now more frequently combined with chemotherapy in individuals with a good performance status
- Radiotherapy is also used as adjuvant treatment after surgery to reduce the risk of recurrence

For early stage laryngeal tumours, radiotherapy may be offered as an alternative to laser surgery, and while radiotherapy alone has also shown good results with later stage tumours, it's often combined with chemotherapy where the patient is fit enough.

Head & Neck – Treatment – Larynx - Chemotherapy

- Chemotherapy is usually given in conjunction with radiotherapy
- Chemotherapy may be given as a neo-adjuvant treatment prior to Radiotherapy if the tumour is large or at an advanced stage



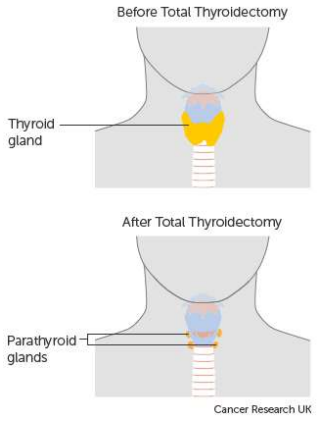
Chemotherapy may also be given as a neo-adjuvant treatment prior to radiotherapy if the tumour is large or advanced.

Head & Neck – Treatment – Thyroid - Surgery

Surgery may be the only treatment required for localised, early stage cancers and is usually the first treatment for follicular, papillary or medullary thyroid cancer

- Lobectomy or partial thyroidectomy
- Total thyroidectomy (illustrated here)
- Papillary carcinoma may be multicentric, therefore a completion thyroidectomy is usually carried out to ensure there is no residual disease left behind

If lymph nodes are suspected to contain cancer cells then some or all of one side of the neck nodes will be removed



In many cases, surgery is the sole treatment for a thyroid tumour. This may only require a partial thyroidectomy but where papillary carcinoma is determined to be in more than one location, a completion thyroidectomy is generally carried out

Head & Neck – Treatment – Thyroid - Radiotherapy

Radioactive iodine treatment

- Internal radioactive iodine uses a radioactive isotope of iodine called Iodine 131 (I-131). It's used to treat papillary and follicular thyroid cancers

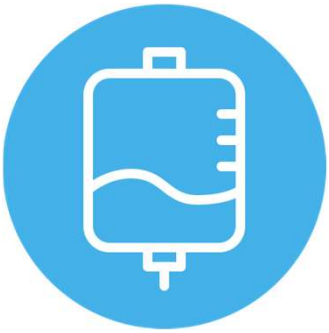
External beam Radiotherapy

- This is more commonly used to treat anaplastic thyroid cancers as an adjuvant treatment after surgery because these types of tumours do not respond to radioactive iodine treatment.

Papillary and follicular carcinomas in the thyroid may also be treated using radioactive iodine. The iodine is taken orally and collects within the thyroid, killing cancer cells. This treatment is not suitable for Anaplastic thyroid cancer which may instead be treated using adjuvant external beam radiotherapy.

Head & Neck – Treatment – Thyroid - Chemotherapy

- Chemotherapy is not usually used as a first line treatment for thyroid cancer as surgery and radiotherapy are more effective
- Chemotherapy may be offered to treat thyroid cancer that has recurred after initial treatment or as a palliative treatment to control symptoms



Surgery and radiotherapy have both been shown to be effective first line treatments for thyroid cancers, so chemotherapy is not normally offered as a primary treatment. It may however be offered for a recurrence or as a palliative treatment

Summary

In summary …

Summary

- The main risk factors for tumours of the oral cavity & larynx are smoking and alcohol. Risk factors for thyroid tumours include family history and previous radiation exposure

The primary risk factors for cancer of the oral cavity and larynx are tobacco and alcohol. Thyroid cancer risks include family history and prior radiation exposure

Summary

- The main risk factors for tumours of the oral cavity & larynx are smoking and alcohol. Risk factors for thyroid tumours include family history and previous radiation exposure
- Signs of an oral cavity tumours include mouth ulcers, a lump in the neck or halitosis. A hoarse voice or difficulty swallowing can be signs of laryngeal or thyroid tumours

Oral cavity tumours may present as mouth ulcers or a lump in the neck. Both Laryngeal and thyroid cancers may present with a hoarse voice or difficulty swallowing

Summary

- The main risk factors for tumours of the oral cavity & larynx are smoking and alcohol. Risk factors for thyroid tumours include family history and previous radiation exposure
- Signs of an oral cavity tumours include mouth ulcers, a lump in the neck or halitosis. A hoarse voice or difficulty swallowing can be signs of laryngeal or thyroid tumours
- Investigations will likely include a form of imaging and possibly a biopsy

Investigations usually involve one or more forms of imaging and may require a biopsy

Summary

- The main risk factors for tumours of the oral cavity & larynx are smoking and alcohol. Risk factors for thyroid tumours include family history and previous radiation exposure
- Signs of an oral cavity tumours include mouth ulcers, a lump in the neck or halitosis. A hoarse voice or difficulty swallowing can be signs of laryngeal or thyroid tumours
- Investigations will likely include a form of imaging and possibly a biopsy
- All invasive tumours must be recorded

All invasive tumours need to be added to your cancer data management system

Summary

- The main risk factors for tumours of the oral cavity & larynx are smoking and alcohol. Risk factors for thyroid tumours include family history and previous radiation exposure
- Signs of an oral cavity tumours include mouth ulcers, a lump in the neck or halitosis. A hoarse voice or difficulty swallowing can be signs of laryngeal or thyroid tumours
- Investigations will likely include a form of imaging and possibly a biopsy
- All invasive tumours must be recorded
- Stage must be recorded for all stageable cancers

A full TNM stage must be recorded for all stageable head and neck cancers

Summary

- The main risk factors for tumours of the oral cavity & larynx are smoking and alcohol. Risk factors for thyroid tumours include family history and previous radiation exposure
- Signs of an oral cavity tumours include mouth ulcers, a lump in the neck or halitosis. A hoarse voice or difficulty swallowing can be signs of laryngeal or thyroid tumours
- Investigations will likely include a form of imaging and possibly a biopsy
- All invasive tumours must be recorded
- Stage must be recorded for all stageable cancers
- Treatment is determined depending on the type, location and stage of the tumour – this may include all three major treatment modalities

The treatment regimen depends on the type, location and stage of the tumour and sometimes requires a combination of approaches

Summary

- Additional guidance on recording COSD data including morphology, topography, staging and recording a diagnosis can be found at: https://digital.nhs.uk/ndrs/data/cancer-data-training-materials
- Staging data sheets can also be downloaded from the NDRS website for clinical use: https://digital.nhs.uk/ndrs/data/cancer-data-training-materials/staging-sheets

Additional training modules as well as Staging sheets for clinical use may be downloaded from the NDRS website.

Summary

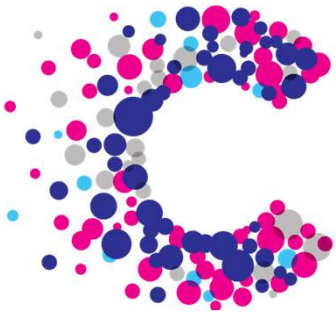
- If in any doubt as to whether you should be recording a diagnosis, please refer to the latest COSD User Guide, Appendices A, B & C
- For guidance on the required staging system, please refer to the latest COSD User Guide, Appendix E

- https://digital.nhs.uk/ndrs/data/data-sets/cosd#downloads

Do please remember, guidance **is** available on our website. You can download the COSD User Guide by clicking on this link and selecting the COSD version appropriate to your trust.

Acknowledgements

Many thanks to Cancer Research UK for the use of their images within this training module.



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We'd like to thank Cancer Research UK for the use of their images within this training module.

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If you have any questions on the information contained within this module or about COSD in general, do please feel free to email your regional Data Liaison Manager