

# Multidisciplinary Symposium — Head and Neck

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## Head and neck cancer: the surgeon's role

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Multidisciplinary teams of clinicians manage patients with head and neck cancer in the UK. The lead clinician for any particular patient is likely to be either a surgeon or an oncologist but they rely on the skills of many health care professionals for both diagnostic and therapeutic purposes. This paper outlines the role of the surgeon within the head and neck cancer team, their key tasks and responsibilities. Throughout, it enumerates the surgeon's requirements from diagnostic radiological colleagues.

**Table 1** *The most common primary sites at which cancer is found in the head and neck in the United Kingdom and average number of new registrations per year*

Site	N
Larynx	2376
Oral cavity	2156
Pharynx	1241
Thyroid	979
Salivary gland	720

### Introduction and background

The term 'head and neck cancer' covers a large number of different epithelial tumours that arise at a number of sites (Table 1). Excluding skin cancers, the majority of these tumours develop in the upper aero-digestive tract.

Approximately 4500 people develop cancer of the upper aero-digestive tract every year in the UK and a further 900 present with cancer of the thyroid gland. Head and neck cancer is therefore relatively uncommon in comparison to cancer of the lower airway and gastrointestinal tract. Head and neck cancer represents about 2.5% of all cancer registrations in the UK each and every year. The incidence of head and neck cancer within the UK is not uniform. Regional variations are apparent that range from 7.7 per 100 000 population in South East Thames to 15.3 per 100 000 population in Wales. The cause of these regional variations is not entirely clear but, to some extent, reflects social class and habits, as squamous cell cancer of the upper aero-digestive tract is a smoking-related disease. Cigarette-smokers have a 14-fold increased risk of developing laryngeal cancer<sup>[1]</sup>. Alcohol further increases the risk of developing cancer at these sites particularly in the oral cavity, hypopharynx, oesophagus and supraglottis. There is also a well-recognized occupational hazard for hard-wood workers who have the misfortune to develop adenocarcinoma of the nasal cavity. Dietary deficiencies, occupational exposure to asbestos, nickel and other industrial chemicals have also been implicated, but the relative risk conferred by these factors is probably not as great as previously thought.

### Initial management of the primary tumour

Even though the majority of head and neck cancers are of the same histological type, squamous cell carcinoma, treatments differ according to the site, stage and the patient's preference or particular needs. At the outset, the principal task for the surgeon is the accurate diagnosis and staging of the patient's tumour. Tissue for histological diagnosis must be obtained from the primary site, if known, by either open biopsy or fine-needle biopsy, which may need to be image-guided. Factors that might influence outcome or suitability for treatment must be investigated and documented. Careful imaging at this point in the patient's management is crucial. The relationship of the tumour to adjacent structures, the nodal status of the neck and the presence of other unsuspected primary neoplasms or metastases in the neck, chest or liver have a significant impact on treatment planning and outcome. Site-specific imaging protocols have been developed and published in a national consensus document<sup>[2]</sup>. To complicate matters further, some patients present with metastatic neck disease for which no primary site is apparent. About 75% of these tumours will have developed from head and neck primaries and only 11% from primaries outside that region<sup>[3,4]</sup>. The origin of some is never determined. CT, MR and PET scanning can be extremely helpful in the assessment and management of these patients.

**Table 2** *Aims of imaging*

Primary tumour
Site
Tumour volume
Relationship to adjacent structures
Nodal status
Synchronous primary tumour
Metastases
Pulmonary status
Image-guided biopsy
Embolization
Image-guided surgery
Percutaneous gastrostomy
Follow-up
Response to treatment
Development of recurrence/metastasis
Development of second primary tumours

### Treatment options and the development of a management plan

Most small tumours are amenable to radiotherapy or local excision, while larger tumours require combination therapies for control and best prospect of cure. The upper aero-digestive tract and its functions are often deranged by surgical interventions and this can have an enormous impact on the patient's quality of life, notwithstanding the best services and skills of speech and swallowing therapists. It is the surgeon's responsibility to inform the patient and their carer about the cancer in terms that they can understand and to explain methods of treatment or palliation so that the right decision is made and fully informed consent can be obtained. Detailed and accurate imaging of the patient and their disease is fundamental to this process. Furthermore, interventional techniques have made surgical resection safer and some radiological procedures can facilitate post-operative care; for example, pre-operative embolization of vascular tumours and percutaneous gastrostomy. Image-guidance during surgery is becoming more popular and will undoubtedly have a positive impact on the management of patients with neoplasms infiltrating, or arising in, the skull base. Table 2 outlines the key tasks and questions a surgeon may ask of their radiologist.

### Post-operative care

After treatment, the surgeon is responsible for continuing care. It is the surgeon's duty to review their patient until it is reasonable to assume that the cancer will not recur, any disabilities have been adequately managed or, in the case of recurrent or incurable disease, the patient no longer requires surgical intervention. Interval scanning is pivotal in this process, particularly for skull base tumours and thyroid cancers.

Finally, it is important to remember that 15–25% of patients with primary squamous cell carcinomas of the head and neck develop second primary tumours in the same region within 5 years and 10–30% of these patients will develop third and fourth primaries in the head and neck. Modern imaging techniques have improved the detection and clinical staging of these tumours, which in turn should have an impact on survival for these unfortunate patients.

### Key points

- (1) The surgeon is ultimately responsible for the management of patients with head and neck cancer
- (2) Detailed imaging of the head and neck is required in the initial assessment of the patient
- (3) Interventional techniques can facilitate surgical procedures and post-operative care
- (4) Interval scanning in the post-operative period is often requested to assess response to treatment and to detect recurrence or second primary tumours

### References

- [1] Muscat JE, Wynder EL. Tobacco, alcohol and asbestos and occupational risk factors for laryngeal cancer. *Cancer* 1992; 69: 2244–51.
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