

# Waiting times during the management of head and neck tumours

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## Abstract

The waiting times incurred during the management of 75 consecutive head and neck oncology patients attending for post-treatment follow-up were reviewed. Data were gleaned from general practitioner (GP) referral letters, patient case-notes as well as radiology and histology reports. The mean time for GP referral to ENT was 5.1 weeks. From ENT to endoscopy was 3.1 weeks, to histology 3.5 weeks, to computed tomography (CT) scan 5.6 weeks, to magnetic resonance scan (MR) 4.1 weeks, to primary radiotherapy 10.3 weeks and to surgery 5.5 weeks. The mean symptom duration prior to referral was 4.9 months.

Our results compare unfavourably with the standards recommended by the BAO-HNS. Local modifications may improve matters, but significant increases in funding, manpower and equipment are required to achieve the stipulated standards. Moreover, criteria for referral have to be re-emphasized and patient education has to be addressed as these appear to contribute the longest delay in the diagnosis of head and neck tumours.

**Key words:** Waiting Lists; Head and Neck Neoplasms; Oncology Service; Hospital; Great Britain

## Introduction

The United Kingdom's record of cancer survival rates is poor compared to other first world countries. Europe and America have longer overall survival rates for cancer than the UK. The age standardized, relative five-year survival for all malignant neoplasms in England are 31.1 per cent for men and 42.7 per cent for women, compared to the European average of 35 per cent and 47.5 per cent respectively.<sup>1</sup> With particular reference to head and neck cancer, England has a death risk ratio of 0.85:1.15 compared to a mean age-adjusted five-year relative survival of the European pool of cancer patients. The age standardized, relative five-year survival for men is 37.4 per cent and 46.2 per cent. Although this is better than the European average of 33.6 per cent

and 48.2 per cent respectively, it is worse than many other countries of similar socio-economic status (Table I).<sup>2</sup>

Previous studies have shown significant delays during the diagnosis and treatment of cancer patients following referral to hospital specialists.<sup>1</sup> Furthermore, individual cases of alleged negligent management of cancer patients have been reported recently in national newspapers. These factors have combined to increase both public and political concern, regarding cancer services.

Consequently, the government has introduced legislation in order to help improve the survival rates of all the UK's cancer patients. This outlines the changes that need to be made in order to

TABLE I

AGE STANDARDIZED FIVE-YEAR SURVIVAL RATES FOR HEAD AND NECK CANCER: (%)

Country	Men	Women
United Kingdom	37.4	51.9
Austria	47.4	51.9
Iceland	44.9	50.2
Netherlands	47.2	45.7
Sweden	49.5	62.9
Switzerland	37.8	50.4

TABLE II

BAO-HNS MINIMUM STANDARDS FOR THE MANAGEMENT OF PATIENTS WITH HEAD AND NECK MALIGNANCY. (2ND CONSENSUS DOCUMENT, AUTUMN 2000)

Interval	Standard
First symptoms to GP	1 month
GP to first out-patient visit	14 days
FNAC	No wait
First out-patient visit to panendoscopy	7 days
Biopsy to report issue	7 days
Out-patients to primary radiotherapy	14 days (to planning)
Out-patients to surgery	14 days

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improve the way in which cancer patients are treated.<sup>3</sup> Central to the reorganization is the implementation of a maximum two-week period between GP referral and consultation by a hospital specialist. A further defined target is the referral by GPs of every patient suspected of having cancer, within 24 hours. Additional targets relating to the investigation, diagnosis and treatment of specific tumours, including head and neck tumours have also been defined (Table II).<sup>4</sup>

University Hospital Aintree (UHA), Liverpool, UK, is a tertiary referral centre for head and neck malignancy. Referrals to the head and neck services result either directly from GPs in our catchment area, or from other specialists practising in the North West of England or North Wales. An audit of the management of patients, referred from GPs, with suspected head and neck malignancy to the department was undertaken. The aim was to compare our local services with the nationally stipulated targets and to identify any specific problem areas during the diagnosis and treatment of head and neck cancer patients.

Our management algorithm for head and neck malignancy, through diagnosis, staging and ultimate treatment, is outlined in Figure 1. Referred patients undergo a diagnostic and staging panendoscopic examination under general anaesthetic, allowing a biopsy of the tumour. In addition, fine needle

aspiration cytology (FNAC) of any associated suspicious neck mass is performed. In order to investigate the extent of loco-regional and distant metastasis, in all but the smallest of primary tumours, an MR scan of the neck and a CT scan of the chest and upper abdomen are used.<sup>5</sup> The results of these investigations will dictate the treatment strategy, which may involve surgery, radiotherapy or both.

**Methods**

A retrospective study was undertaken on patients with a solid head and neck malignancy managed at University Hospital Aintree, department of otorhinolaryngology-head and neck surgery from 1999–2000. Data are collected prospectively on all new patients attending the unit, updated throughout their management and ultimately stored on the Liverpool Head and Neck database. Seventy-five consecutive patients attending for post-treatment follow-up were included in the study.

Some of the data required were not routinely recorded for the database and additional sources of information used included GP referral letters and case-notes as well as pathology, cytology and radiology reports. Data pertaining to the duration of presenting symptoms were either obtained from the referral letter or as documented in the history on the first consultation.

The intervals for which data were collated are as follows:

- (1) GP to UHA head and neck services (ENT);
- (2) ENT to general anaesthetic panendoscopy. (endoscopy);
- (3) ENT to histological diagnosis. (biopsy or FNAC);
- (4) ENT to CT scans;
- (5) ENT to MR scans;
- (6) ENT to primary radiotherapy;
- (7) ENT to surgery;
- (8) Symptom duration, prior to presentation.

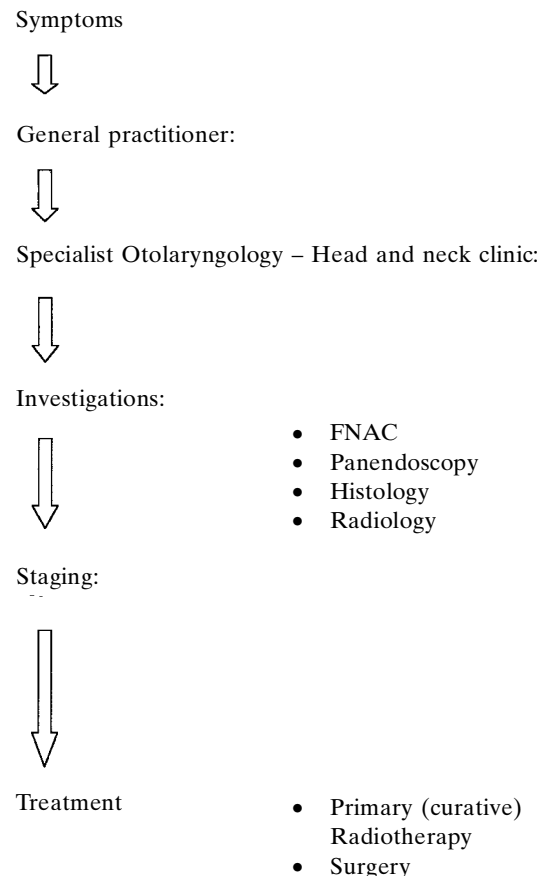


FIG. 1

Algorithm for the management of patients suspected of having head and neck cancer at University Hospital Aintree.

**Results**

*Presenting symptoms*

Thirty-seven patients presented with hoarseness, 15 with a neck lump, 14 with pain, three with haemoptysis and two with a visible ulcerative lesion.

TABLE III  
TUMOUR DEMOGRAPHICS

Patient numbers	Tumour site
41	Larynx. (24 T1; 7 T2; 10 > T2)
6	Tonsil
4	Hypopharynx
	Post-nasal space
	Thyroid
	Tongue
3	Sinonasal
2	Occult primary SCC
	Oropharynx
	Salivary gland
1	Retromolar trigone
	SCC pinna
	Soft palate

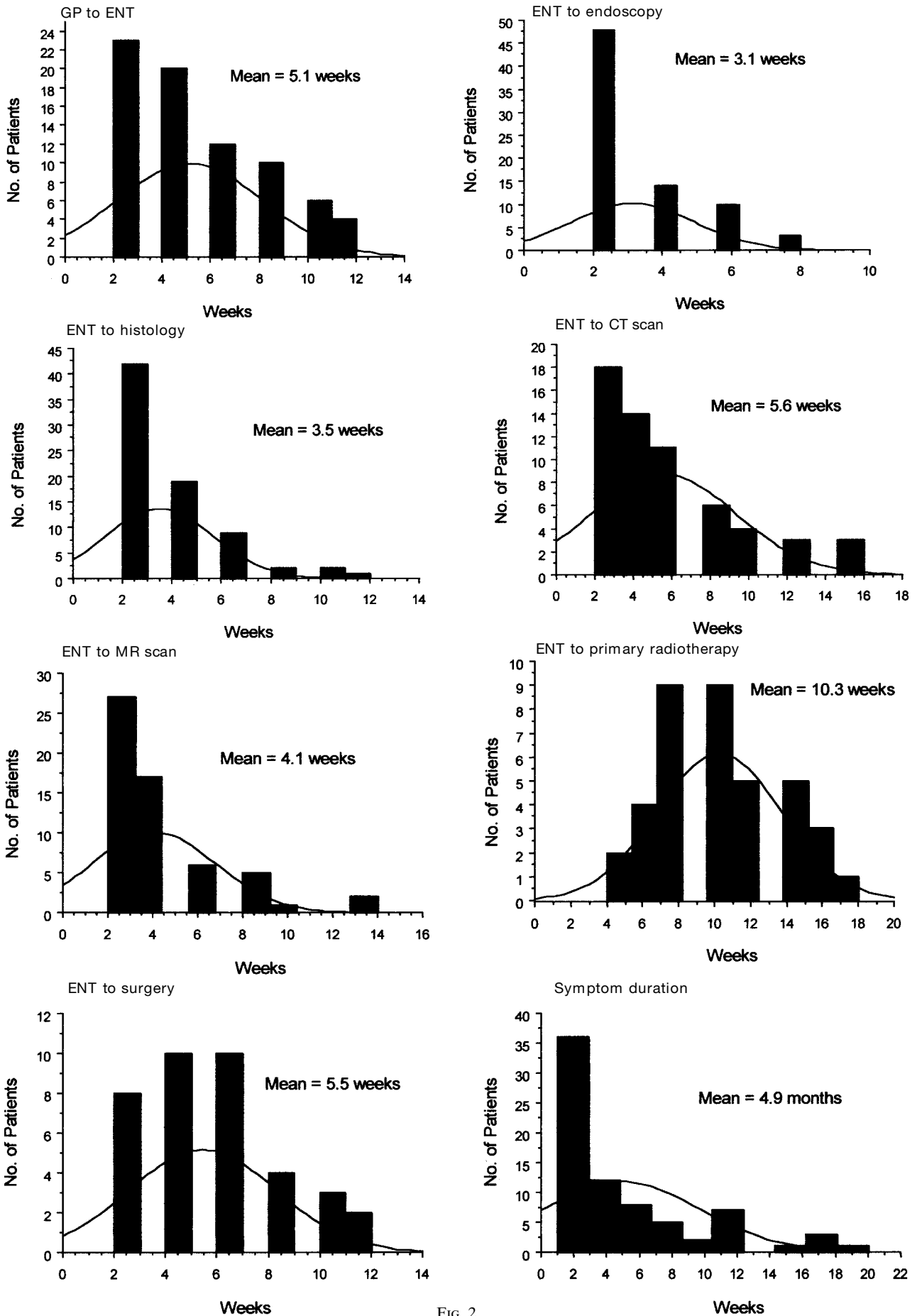


FIG. 2

Distribution of waiting times at each investigation and treatment stage, for patients with head and neck cancer at University Hospital Aintree.

TABLE IV  
RESULTS SUMMARY

Interval	No. of data	Mean waiting times; (Range)
GP to ENT	75	5.1 weeks; (2–12)
ENT to endoscopy	68	3.1 weeks; (2–8)
ENT to histology	75	3.5 weeks; (2–12)
ENT to CT	38	5.6 weeks; (2–16)
ENT to MRI	36	4.1 weeks; (2–14)
ENT to primary radiotherapy	39	10.3 weeks; (4–18)
ENT to surgery	36	5.5 weeks; (2–12)
Symptom duration	75	4.9 months; (1–20)

### Management

Fifty-eight patients underwent a loco-regional magnetic resonance (MR) scan, whilst 59 patients underwent a CT scan of their chest and upper abdomen.

Thirty-seven patients had primary surgery, whilst 38 had curative (primary) radiotherapy.

Waiting times (Table IV and Figure 2)

### Summary

The proposed 'two-week' rule was exceeded by three weeks on average. The time to surgery, after staging investigations are complete, is acceptable, although a considerable delay occurred at the imaging stage. An unacceptable delay to curative radiotherapy was revealed; the longest delay was due to late presentation of the patient,  $\pm$  late referral by the GP.

### Discussion

It would seem reasonable to assume that delays in diagnosis and to the start of curative treatment would result in poorer survival outcomes. However, evidence available concerning the exact role of diagnostic delays in the prognosis of cancer is conflicting. Allison *et al.*<sup>11</sup> demonstrated that delays exceeding one month contributed to an increased risk of being diagnosed with late stage, upper aerodigestive tract tumors. On the other hand Sainsbury *et al.*<sup>12</sup> showed that patients with breast cancer who presented early and were treated in less than 30 days had significantly worse outcomes. Barton *et al.*<sup>13</sup> examined the effect of waiting times from biopsy to radiotherapy and from presentation at the radio-

therapy department to the start of treatment, on the rate of local recurrence of laryngeal cancer. They undertook a retrospective study of 581 patients with a median follow-up of 6.8 years. Their data showed that median times from biopsy to radiotherapy and the time from presentation at the department to the start of treatment was 24 and 16 days respectively. The minimum time to the start of radiotherapy was 15 days. Multivariate analysis demonstrated that higher T stage, longer treatment duration and increasing field area were all positive predictors of local recurrence. However, they were unable to show that waiting time to the start of curative treatment was significantly associated with local relapse. Richards *et al.*<sup>14</sup> in a systematic review of the influence of treatment delays on survival outcomes in patients suffering breast cancer, concluded that when the effect of disease stage at presentation on survival was taken into account, longer delay was not associated with shorter survival.

Whilst government attempts to correct the shortcomings of cancer services in the United Kingdom are laudable, we are concerned that unless issues of personnel, equipment provision and funding are addressed the changes envisaged may actually result in adverse effects on cancer service provision.

The results of our study show that the mean wait for this cohort of head and neck cancer patients from GP referral to specialist consultation is more than double the government target, (5.1 weeks) whilst the delay for MR and CT scanning is 4.1 and 5.6 weeks respectively. The longest delay during the management of these patients was the time taken to the start of primary radiotherapy (10.3 weeks). This is clearly too long, although comparable with the results of other studies.<sup>7–9</sup> Compared to surgery as a definitive treatment, it is twice the wait (10.3 vs. 5.5 weeks). However, the longest overall delay was the time the patient suffered symptoms, highly suggestive of a head and neck tumour, prior to specialist consultation (4.9 months).

The results in this study show that we, like others in the UK,<sup>1,6,10</sup> are currently unable to achieve the stipulated targets for the management of cancer patients. Furthermore, these times compare unfavourably with the minimum standards proposed by British Association of Otolaryngologists – Head and Neck Surgeons (Table II).<sup>4</sup> In order to achieve the objectives stipulated by the government, major organizational, personnel and funding issues have to be addressed at both local and national level. Despite government recommendations for an increase in consultant numbers, there is evidence that the current expansion is occurring at an inadequate rate.<sup>15,16</sup>

Increased numbers of otolaryngologists, radiologists, pathologists and oncologists with a subspecialist interest in head and neck are essential. Lack of trained specialists in radiology, pathology and medical oncology has already been identified as an area of concern and specific measures are now in place to improve the recruitment of trainees into these specialties.<sup>3,6</sup>

TABLE V

URGENT REFERRAL GUIDELINES FOR SUSPECTED HEAD AND NECK CANCER

- (1) Hoarseness persisting for >3 weeks. (Immediately if thyroid mass)
- (2) Ulceration of oral mucosa persisting for >3 weeks.
- (3) Oral swellings persisting for >3 weeks.
- (4) All red or red and white patches for the oral mucosa.
- (5) Dysphagia persisting for 3 weeks.
- (6) Unilateral nasal obstruction particularly when associated with purulent discharge.
- (7) Unexplained tooth mobility not associated with periodontal disease.
- (8) Unresolving neck masses for >3 weeks.
- (9) Cranial neuropathies.
- (10) Orbital masses.

As well as the lack of trained specialists, there is also a national shortage of MR and CT scanners and radiotherapy facilities. This too has been recognized and the provision of more and improved facilities is a stipulated aim of the current re-organization of cancer services.<sup>6</sup>

Delay to primary radiotherapy, is a major rate-limiting step during our local management pathway. Patients referred for curative radiotherapy undergo a planning stage prior to commencement of radiotherapy. This is a multi-stage procedure that has the potential for delays at each stage. These are a direct consequence of a local and national shortage of trained radiographers and limited equipment resources. As part of the Cancer Services Collaborative, there is a local effort to review and improve the system of care delivery and treatment to patients who require radiotherapy, ensuring adequate interventions to reduce delay throughout the patient journey. These issues are currently being addressed as part of the National Cancer Plan. However, until an adequate solution is found unacceptable delays will continue.

Our results also show that the time to presentation to specialist services is the longest delay in the diagnosis and treatment of these patients. This may result from patient delay in attending the GP, delayed referral from the GP to hospital, or both. This would suggest that public awareness and GP education are areas that should be addressed.

Guidelines for GP's referring patients they suspect of having cancer are now available (Table V).<sup>17</sup> Specific head and neck referral forms for GPs are currently being introduced in some regions. They serve not only as a clear access pathway for care of patients suspected of having a head and neck tumour, but they also serve as a reminder of the cardinal signs and symptoms of specific head and neck tumours.

Patient education appears to be neglected at present, despite previous studies showing this to be a significant factor resulting in their late presentation.<sup>10</sup>

However, if strategies to improve patient awareness and GP education of the benefits of early referral are successful, it is important to consider the consequences. One inevitable consequence will be an increase in referrals to specialist centres. This study clearly demonstrates that targets are not met with the current referral load. It is our fear that without the necessary increase in trained personnel, equipment and resources, the time-delays incurred during the diagnosis and treatment of head and neck cancer may ironically worsen following implementation of the 'two-week' rule.

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