

# A survey of oral medicine education, training and practice among dermatologists in the UK and Ireland

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## IN BRIEF

- Shows that most dermatologists appear ill-equipped to recognise and diagnose diseases of the oral cavity due to a lack of training in oral medicine.
- Recommends that oral medicine training be strengthened in the dermatology core curriculum for registrars with further opportunity to enhance these skills at consultant level.

**Background** Oral mucocutaneous diseases are common and patients with these conditions are frequently assessed by dermatologists. An accurate and comprehensive oral examination is important for a complete dermatological assessment. **Aim** The aim of this study was to assess education and training, knowledge, and clinical practice of oral medicine among dermatologists in the United Kingdom (UK) and Ireland. **Methods** A cross-sectional survey was conducted by means of an internet-based survey tool. This was available to British Association of Dermatology (BAD) members in UK and Ireland on the association's website. Members were asked to respond to a 10-part questionnaire that enquired about their knowledge of oral diseases, training in oral medicine, performing an oral examination and oral biopsy. **Results** Completed responses were received from 95 dermatologists. The majority of respondents were consultant dermatologists (72%) who were university based. While the majority reported that knowledge of oral diseases was important, only 52% were confident in recognising the normal variants of the oral cavity. Just 55% were confident in recognising oral malignancy and even less (42%) the different forms of oral ulceration. Over three-quarters had never attended an oral medicine clinic or attended an external oral medicine course as part of their training. Two thirds had not been taught normal oral anatomy or how to perform an oral examination. The majority reported that their training in oral medicine was not adequate to perform their job. **Conclusions** This study shows that in this, albeit small, group of dermatology specialists and trainees most appear ill-equipped to recognise and diagnose diseases of the oral cavity due to a lack of training in oral medicine.

## INTRODUCTION

A comprehensive oral examination is important for a complete dermatological assessment.<sup>1</sup> In the UK and Ireland oral medicine is an official dental speciality regulated by the respective general dental councils.<sup>2</sup> The British Society of Oral Medicine (BSOM) plays a major role in promoting patient care and development of the speciality in both the UK and Ireland.<sup>3</sup> The BSOM defines oral medicine as 'the speciality of dentistry concerned with the oral healthcare of patients with chronic, recurrent and medically related disorders of the oral and maxillofacial region, and with their diagnosis and non-surgical management'.<sup>3</sup>

The numbers of oral medicine consultants remains low throughout both nations. In 2011 there were still only 40 in total throughout UK and Ireland.<sup>3</sup> Demand for oral medicine

services is therefore extremely high. To address this demand there have been recent changes in training requirements so that new trainees are no longer required to have a medical degree before commencing speciality training. The BSOM cites that the high demand is due to the diverse group of diseases of the mouth, emerging infections that involve the mouth (for example, HCV and HIV), an increasingly ageing population, oral side-effects of newer systemic and biologic therapies, and an increasing number of patients with precancerous and malignant disorders of the mouth.<sup>3</sup> It has been shown that oral mucosal lesions (OML) can also have a significant adverse effect on a patient's quality of life.<sup>4</sup>

The high prevalence of OML, however, indicates the importance of an oral cavity examination in the dermatology clinic.<sup>5,6</sup> In reality time constraints may prevent this occurring. There is good evidence to support that oral dermatology is a large part of dermatology. Suliman *et al.*<sup>5</sup> performed a cross-sectional hospital-based study of 544 patients with confirmed skin disease. OML were recorded 438 times in 315 patients. The majority of patients were male. OML were more frequently seen in older patients, tobacco users, males, and in

patients with a systemic disease. The most frequently diagnosed lesions were on the tongue. The skin diseases associated with OML included the following: vesiculobullous reaction pattern (72.2%); lichenoid reaction pattern (60.5%); infectious lesions (56.5%); psoriasiform reaction pattern (56.7%); and spongiotic reaction pattern (46.8%). The authors concluded that the high prevalence of OML emphasises the importance of routine examination of oral mucosa in a dermatology clinic.

Additionally, the rates of oral cancer are rising dramatically. The European age-standardised incidence rates between 1975–1977 and 2009–2011 increased by 82% for males and 88% for females.<sup>7</sup> Oral examination during routine dermatological assessment represents an ideal opportunity for oral cancer screening. Increasing rates of oral cancer indicate that it is prudent for not only dentists but also other health professional, for example, dermatologists to promote prevention and to preform screening in order to refer patients appropriately. Early detection of disease is associated with improved survival rates and less invasive treatment.<sup>3</sup> By 2030 it is predicted there will be 9,200 cases of oral cancer in the UK every year compared to 6,240 in 2009 and 3,030 in

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1984. Rates continue to rise in both men and women and in all age groups including the under-50s with more young people developing oral cancer than ever before.<sup>3</sup>

It has been suggested that among dermatologists oral medicine may be perceived as daunting and challenging due to the lack of formal training and experience in this area.<sup>8</sup> As there have been no studies that have addressed this assertion, we performed a questionnaire survey among a cohort of dermatologists to assess their level of knowledge, education and training of oral medicine including their clinical practice.

## METHODS

A cross-sectional survey was conducted. An online questionnaire was created and by means of an internet-based survey was sent to members of the British Association of Dermatology (BAD) via their website. The survey content was based on the UK specialist registrar (SpR) core curriculum and a journal review by Mirowski *et al.*<sup>8,9</sup> Participants responded to a ten-part questionnaire which was distributed through survey monkey. The questionnaire was divided into five main sections: background information, knowledge of oral disorders, oral medicine training, oral examination and oral biopsy. Two questions had subjective 4-point-scale measures; very important, important, not important, don't know and very confident, confident, not confident, don't know. The remainder of questions were answered using a: 'yes, no, don't know' format. The survey continued for a 6 month period between January and June 2013. Reminders were circulated to all BAD members via the monthly email bulletin. This circular was distributed to approximately 1,500 members, 700 of whom are consultants.

## RESULTS

Replies were received from 95 dermatologists and 88 respondents completed all ten questions (Tables 1 and 2). The majority of respondents were consultant dermatologists (72%), with the remainder dermatology SpR (15%), dermatology registrar (5%), associate specialist (4%) and other (4%). Fifty-nine percent of the cohort were university hospital based, 36% were based in a district hospital and 5% replied as other. The majority (68%) had access to oral medicine colleagues (Table 1).

All agreed that knowledge of oral mucosal disorders was important or very important to performing their job. Just over 50% said they were confident in recognising the normal variants of the oral cavity. Although 71% were confident in diagnosing common oral diseases, only 55% were confident in recognising oral malignancy and even less (42%) the different forms of oral ulceration. The

majority of dermatologists (61%) responded that their training in oral medicine was not adequate for their job. Two thirds stated that they had not been taught in oral anatomy or how to perform an oral examination. Over three quarters had not attended an oral medicine clinic (79%) nor undertook an external oral medicine course (88%) (Table 2).

Ninety percent do not routinely perform an oral examination but 92% would do so if indicated by the history or skin examination. Sixty-two percent do not use a defined method or sequence for the assessment and only 55.5% tend to examine both the intra and extra-oral regions. To aid the oral examination only 4% use a dental chair or recline the patient at a 45-degree angle or use a dental hand mirror (2%). While 50% use specific lighting the majority (71%) tend to use a hand torch. Three quarters of respondents use a tongue depressor but the wearing of gloves was not universal among the cohort questioned (Table 2). Seventy percent have never performed an oral biopsy and only 11% stated that they were confident to perform one. Oral medicine colleagues perform most oral biopsies (65%) for dermatologists, with 8% performing their own biopsies or referring to a dermatology colleague (9%) (Table 2).

## DISCUSSION

Oral mucosal disease may be the primary clinical feature or the only sign of mucocutaneous disease. Lichen planus and autoimmune bullous disorders can present as oral lesions.<sup>10,11</sup> For example, in many cases of pemphigus vulgaris, oral lesions may be the first manifestation of disease before cutaneous involvement. It may also be an indicator of systemic illness,

for example HIV and HCV.<sup>12</sup> In this context while an oral mucosal feature may not be pathognomonic it may help us make a diagnosis. As dermatologists examine the entire skin, an oral mucosal examination can contribute certain diagnostic clues.

The prevalence of oral mucosal disease depends on the population studied. The frequency of oral mucosal disease reported in the general population varies from 25%–61.6%.<sup>13,14</sup> In patients attending a general dermatology clinic, Suliman *et al.*<sup>5</sup> assessed the frequency and diversity of OML in dermatologic patients. Of 544 patients included in their study, 315 had at least one clinically recognised type of OML (57.9%). The most frequently diagnosed OML were tongue lesions (23.3%) followed by white lesions (19.1%), red and blue lesions (11%) and vesiculobullous diseases (6%). Malignant tumours (0.2%) were the least frequently diagnosed OML group. Within individual skin disease groups investigated OML occurred most frequently in the vesiculobullous reaction pattern skin group (72.2%) and occurred least frequently in the skin disease group of spongiotic reaction pattern (46.8%). In this study patients with oral mucosal disease were more likely to be elderly, male, have other systemic or dermatological diseases, and use alcohol and/or tobacco. Overall, however, there seems to be a higher propensity for oral mucosal disease in females.<sup>13</sup>

The speciality of oral medicine is relatively small. There are 40 full-time oral medicine consultants in the UK and Ireland.<sup>3</sup> Oral medicine training has recently been changed so that new trainees are no longer required to have an undergraduate medical degree before commencing speciality training. It is possible

**Table 1** Details of background information of all respondents

Background information	n (%)
<b>Hospital grade (n = 95)</b>	
Consultant dermatologist	68 (72%)
Dermatology SpR	14 (15%)
Dermatology registrar	5 (5%)
Associate specialist	4 (4%)
Other	4 (4%)
<b>Primary place of work (n = 94)</b>	
University hospital	55 (59%)
District general hospital	34 (36%)
Other	5 (5%)
<b>Access to oral medicine colleagues at place of work (n = 93)</b>	
Yes	63 (68%)
No	29 (31%)
Don't know	1 (1%)

that this change in background training may impact on the scope of conditions managed independently within oral medicine with a resultant move to joint clinics. Many patients who have oral medicine conditions are actually treated by clinicians in other related specialties such as oral and maxillofacial surgery, oral surgery and ENT with limited formal oral medicine training. It is possible that this distinction may not have been obvious to the survey respondents resulting in skewed responses and an overestimation of the number with access to an oral medicine opinion. These factors need to be considered in the context of service provision. This will have an effect and will have an impact on aspects

such as provision of joint oral medicine/dermatology clinics and oral medicine training of dermatology clinicians and trainees.

Dermatologists may be asked to see patients both with normal variants of the oral cavity and entities such as ulcers, infections, malignant and non-malignant lesions. Because of limited exposure to oral medicine education and training some dermatologists may lack confidence or report that the oral examination is outside their realm of expertise. In a previous study, only half of all medical schools surveyed in the UK incorporated teaching of oral anatomy and pathology in their curricula.<sup>15,16</sup> Seventy-three percent of medical students had not been taught how to examine the oral

cavity, 81% had had no experience of doing so in patients, and only 15% felt confident to diagnose a carcinoma of the lip or oral cavity.<sup>15</sup>

A New Zealand study,<sup>17</sup> from 2002–2006 examined the epidemiology of oral soft tissue lesions and determined concordance between clinical diagnosis and definitive histological diagnosis achieved by general dental practitioners and specialists. Both groups achieved high diagnostic concordance for benign lesions. Specialists were more accurate in diagnosing malignant and pre-malignant lesions.

The rates of oral cancer have increased significantly in the last few decades and the disease results in significant morbidity and mortality. Oral cancer incidence rates have

**Table 2 Respondants replies to questions of knowledge of oral diseases, training in oral medicine, performing an oral examination and oral biopsy**

Knowledge of oral disorders				
Importance of knowledge of oral diseases in dermatology	Very important	Important	Not important	Don't know
How important do you rate knowledge of oral diseases in dermatology? (n = 93)	32 (34%)	61 (66%)	0 (0%)	0 (0%)
Knowledge of common oral mucosal disorders. How confident are you in?	Very confident	Confident	Not confident	Don't know
The recognition of normal variants of the oral cavity? (n = 90)	5 (5.5%)	42 (47%)	41 (45.5%)	2 (2%)
Diagnosing common oral diseases? (n = 90)	4 (4%)	60 (67%)	23 (26%)	3 (3%)
Recognising oral malignancy? (n = 89)	5 (6%)	44 (49%)	37 (42%)	3 (3%)
Recognising the different forms of oral ulceration? (n = 88)	5 (6%)	32 (36%)	50 (57%)	1 (1%)
Training in oral medicine	Yes	No	Don't know	
Have you attended an oral medicine clinic? (n = 90)	19 (21%)	71 (79%)	0 (0%)	
Have you been taught how to perform an oral examination? (n = 90)	31 (34%)	59 (66%)	0 (0%)	
Have you been taught oral anatomy? (n = 90)	28 (31%)	60 (67%)	2 (2%)	
Have you ever attended an external oral medicine course? (n = 90)	11 (12%)	79 (88%)	0 (0%)	
Do you think that your training in oral medicine was adequate for your job? (n = 88)	26 (30%)	54 (61%)	8 (9%)	
Oral examination	Yes	No	Don't know	
When performing an oral examination do you?				
Routinely perform an oral examination as part of a general skin examination? (n = 88)	9 (10%)	79 (90%)	0 (0%)	
Only perform an oral examination if indicated by history or skin examination? (n = 87)	80 (92%)	7 (8%)	0 (0%)	
Have a defined method or sequence for oral examination? (n = 90)	34 (38%)	56 (62%)	0 (0%)	
Examine both the extra and intraoral regions? (n = 88)	49 (55.5%)	27 (30.5%)	12 (14%)	
For oral examination do you use?				
A dental chair or chair at 45 degree angle? (n = 90)	4 (4%)	86 (96%)	0 (0%)	
Gloves? (n = 89)	77 (87%)	12 (13%)	0 (0%)	
Tongue depressor? (n = 90)	67 (74%)	22 (24%)	1 (1%)	
Dental hand mirror? (n = 90)	2 (2%)	88 (98%)	0 (0%)	
Specific lighting? (n = 88)	43 (49%)	45 (51%)	0 (0%)	
Hand torch? (n = 89)	63 (71%)	26 (29%)	0 (0%)	
Oral biopsy	Yes	No	Don't know	
Are you confident in performing an oral biopsy? (n = 90)	10 (11%)	78 (87%)	2 (2%)	
Have you performed an oral biopsy? (n = 90)	26 (29%)	63 (70%)	1 (1%)	

increased overall in UK since the mid-1970s, rising by over 80% between 1975–1977 and 2009–2011.<sup>7</sup> There are likely to be several reasons for this increase, including changes in the prevalence of oral cancer risk factors such as alcohol consumption, tobacco use (smoking and smokeless) and human papilloma virus (HPV) infection.<sup>13</sup> The lateral tongue and floor of the mouth are the commonest sites for oral cancer and it is important for clinicians to familiarise themselves with the normal anatomy in these areas.

Our study also showed that most dermatologists do not routinely perform an oral examination but only do so if indicated by the history or skin assessment. This examination is often likely to be insufficient as evidenced by the failure to properly position the patient (96%) or use adequate lighting (51%), in addition to inadequate training in how to carry it out (66%). Given the high prevalence of oral diseases,<sup>4</sup> this may represent a missed opportunity for dermatologists to be involved in oral medicine screening and in particular the early diagnosis of oral cancer.

We acknowledge that a limitation of our survey is our low response rate. The BAD has a membership of approximately 1,500. The response rate of consultant dermatologists was 9%. It may suggest that the reported results are not an accurate reflection of general oral medicine training and knowledge in dermatology with survey respondents being those with some oral medicine training. A further limitation that needs to be considered is the working environment of a clinical dermatologist: heavy case load, pressure of high patient numbers, expectations of paymasters/trusts, availability of facilities and local oral specialities. The very busy curricula of undergraduate medicine also needs to be considered. It is possible that within our questionnaire some further refining of questions may have been beneficial. An online questionnaire may not be the best method of assessing a respondents' knowledge of oral disorders and the extent of their training in oral medicine. However, this method was chosen in an attempt to get as many respondents as possible. The knowledge aspect may have been more accurately assessed by a clinical photograph quiz and the use of free text to clarify the extent of 'oral medicine' training.

Oral biopsy can be safely performed when the surgeon is familiar with the anatomy of the oral cavity and avoids the common pitfalls. Seventy percent of dermatologists replied in this study that they had never performed an oral biopsy and only 11% stated that they would be confident to perform one. Oral medicine colleagues perform most oral biopsies (65%) for a dermatologist which

probably reflects the high number who had access to this speciality in their place of work and a possible lack of training in the technique. Indications to perform an oral biopsy include lesions that persist for longer than one month, lesions that are clinically suspicious for malignancy, inflammatory conditions, bullous lesions and pigmented lesions of unknown aetiology. Contraindications for oral biopsy include microstomia, bleeding diatheses, coagulopathies and severe gag reflex. Vascular lesions, lesions at sites of vital structures such as Stenson's duct, and biopsy of the soft palate or floor of the mouth are probably best referred to oral surgery.

To our knowledge our study is the first study to have examined oral medicine education and training, knowledge and clinical practice among a cohort of dermatologists. Our findings show that most dermatologists or dermatology trainees have never attended an oral medicine clinic, have not availed of an external oral medicine course nor have been taught oral anatomy or how to perform an oral examination. Sixty-one percent stated that their dermatology training in oral medicine was inadequate for their job which is also reflected in the poor responses for knowledge of normal oral anatomy, oral ulceration and malignancy. Our findings suggest that training in oral medicine for U.K. dermatology trainees needs to be further enhanced and strengthened with recommended learning outcomes. As most of our respondents were consultants there should also be increased opportunity for education and training for this group.

As oral medicine in the UK and Ireland is a dental speciality, it is therefore delivered often by oral and maxillofacial surgeons. More integration is required between dermatologists and with those who deliver oral medicine training. Dermatologists should aim to instate joint clinics with oral medicine and encourage collaboration and opportunities with the oral medicine speciality for training and education. Despite the reported survey's low response rate, this topic is important and raises a number of important issues of relevance to dermatology specialist training. Formal oral medicine training and education for all grades of dermatologists is indicated. The relatively limited oral medicine training and proficiency identified in the survey underlines the need for joint management of patients with mucocutaneous disease and service provision.

In summary, most dermatologists in this study appear ill-equipped to recognise and diagnose diseases of the oral cavity due to lack of training in oral medicine. Some dermatologists may lack confidence in this area or report that oral examination is outside

their realm of expertise making it a barrier to incorporating it as part of the routine dermatology examination. This is likely to have an adverse impact on the quality of care for dermatology patients. The importance of dermatologist being able to use a patient encounter as an opportunity in screening needs to be highlighted. Having the knowledge of how to examine, knowing who, when and how to refer to appropriately is equally crucial. Oral medicine training needs to be strengthened in the dermatology core curriculum for registrars with recommended learning outcomes and with further opportunity to enhance these skills at consultant level.

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