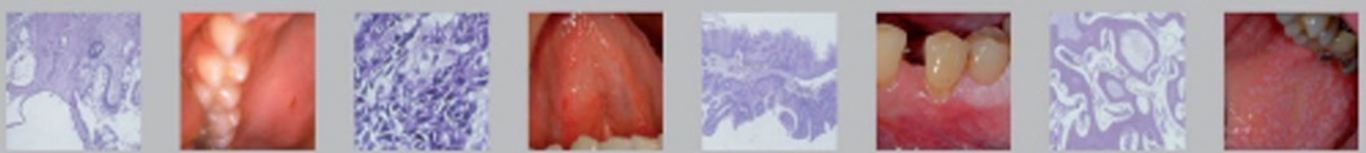
Third Edition

Oral & Maxillofacial Medicine

Crispian Scully



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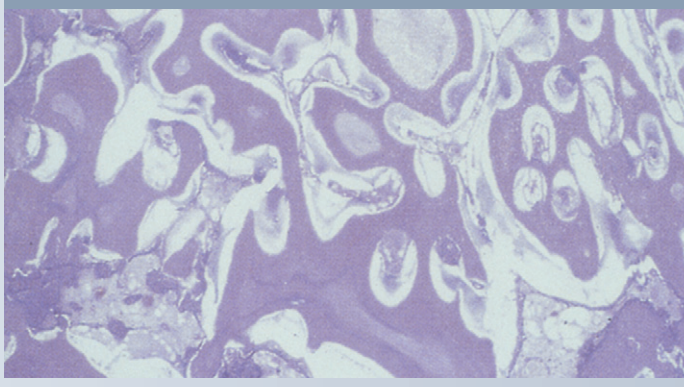

Oral and Maxillofacial Medicine

THE BASIS OF DIAGNOSIS AND TREATMENT

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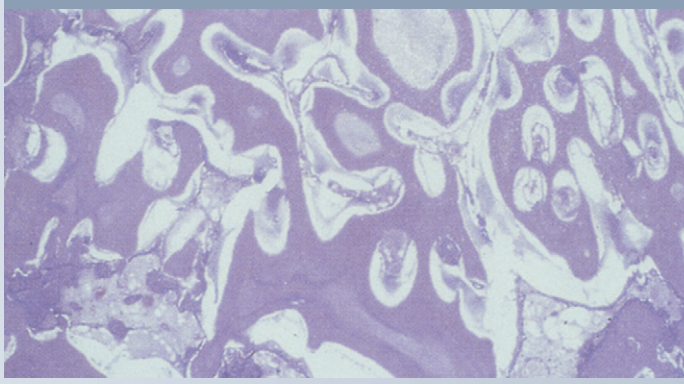

Oral and Maxillofacial Medicine

THE BASIS OF DIAGNOSIS AND TREATMENT

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Preface to third edition

I am pleased to say that the first two editions were so well received and popular, that there have been multiple reprints. The first edition was awarded the First Prize of the Royal Society of Medicine and Society of Authors for a new authored book and the second edition was Highly Commended in the British Medical Association Book Awards.

In the preface to the first edition I noted I would be delighted to receive any comments about the text, but received no suggested improvements. Therefore, to reassure myself, the publishers have had the book peer-reviewed blindly, and I have incorporated suggestions received. Further, to ensure the book continues to be up-to-date, I have again taken the opportunity to refine and restructure; to thoroughly revise, clarify and update the text and the Further reading and Useful websites.

I have also added new material and clinical pictures, tables, boxes and algorithms. Advisers have requested more information on drug interactions and contraindications, but dissuaded me from adding too many additional clinical pictures, suggesting that Atlases were most suitable for these.

I have also increased the content in terms of expansion and rearrangement of the section dealing with potentially malignant disorders and cancer; added new material on the genetic influences in many conditions; and added some fairly recently recognised relevant conditions including various adverse drug reactions, autonomic neuropathies, drug-induced hypersensitivity syndrome, hypereosinophilic syndrome, immune reconstitution inflammatory syndrome (IRIS), IgG4 syndrome, lichenoid and granulomatous stomatitis, trigeminal autonomic cephalgias (TACs), TUGSE (traumatic ulcerative granuloma with stromal eosinophilia), and a new oral mucosal condition similar to orofacial granulomatosis described in solid organ-transplanted children.

Finally, I have also expanded therapeutics – including emergent therapies. Few of the agents used in oral medicine have been produced specifically for orofacial diseases, many also being employed in other fields such as dermatology, rheumatology and gastroenterology and their use in orofacial disease is often 'off label'. Some complementary medicine products are also increasingly in use, with an even weaker evidence base. Few agents have thus been tested in randomized controlled double blind clinical trials but, nevertheless, I have endeavoured to highlight the level of evidence for the various therapies most commonly used and introduced a 'likely benefit' scheme similar to that used in *Clinical Evidence* – the British Medical Journal publication. There will always be some controversy between the categories 'likely to be beneficial' and 'unproven effectiveness'. The evidence base is often sparse and changing but patients must be offered some help and hope.

Drug doses quoted are for healthy adults only and must be reduced in children and older and/or ill patients. Contraindications to drug use are often relative and not absolute, and drug interactions can range from potentially lethal to theoretical only. Doses, contraindications and possible interactions should always be checked with an authoritative source.

In any book there is always a potential conflict between the need for basic and more advanced knowledge: I have endeavoured to address this by including some boxes on the basic causes of conditions, along with expanded versions including more advanced lists.

My additional thanks also are again to Prof Mervyn Shear and Dr David Wiesenfeld for advice; to Dr Aubrey Craig of Medical and Dental Defence Union of Scotland for occasional guidance; to Drs Rachel Cowie, Rachael Hampton and Yazan Hassona for clinical assistance, to Dr Mo El-Maaytah for figure 56.2, to Dr Tony Brooke for figure 53.9 and also to Drs Andrew Robinson, Eleni Georgakopoulou and Dimitris Malamos for constructive comments on the previous edition.

CS
2013

No-one who achieves success does so without acknowledging the help of others.

Alfred North Whitehead

All website addresses cited are valid as of July 2012

Preface to second edition

I am pleased to say that the first edition was very well received and proved popular. Indeed, the book was awarded the First Prize of the Royal Society of Medicine and Society of Authors, for a new authored book.

Nevertheless, I have taken the opportunity to restructure; to thoroughly revise and update the text; to reformat where this could enhance clarity; to add new material and clinical pictures and some basic histopathology, tables, boxes and algorithms; to add new chapters on sialorrhoea and drooling, other conditions, and adverse drug reactions; and to update Further reading.

My additional thanks are to John Huw Evans for his technical assistance, to Dr Stefano Fedele for his comments overall, to Dr Mohamed El-Maaytah and Dr Navdeep Kumar for providing a few figures, to Professor John Eveson for kind permission to use histopathology from our book Eveson, J.W. and Scully, C. *Colour Atlas of Oral Pathology* (1995). Mosby-Wolfe (London) and to Peter Reichart, David Sidransky and Dr L. Barnes for permission to reproduce their WHO Classifications from *Pathology and Genetics of Tumours of the Head and Neck* (2005) and to Professor Mervyn Shear for commenting on the Chapter on Odontogenic Cysts and Tumours.

CS
2007

The wise should consider that health is the greatest of human blessings.

Hippocrates

Preface to first edition

Oral medicine is that area of special competence in dentistry concerned mainly with diseases involving the oral and perioral structures, especially the oral mucosa, and the oral manifestations of systemic diseases. The specialty, in some countries termed 'stomatology', deals not only with oral disease but also with perioral lesions, and is increasingly known as 'oral and maxillofacial medicine'. Furthermore, apart from the obvious close relationships with oral pathology (oral and maxillofacial pathology) and with oral surgery (oral and maxillofacial surgery), there is a close relationship with special care dentistry and hospital dentistry.

This book attempts to present for those interested in oral medicine and hospital dentistry, the basics of the specialty of oral medicine in a useful and digestible format; by offering the information in a range of modes and levels of detail and offering practical guidance to diagnosis, therapy and sources of information for patient and clinician, both on the Internet and elsewhere.

The first section reviews the fundamental principles of the history, examination and investigations and principles of management. In the absence of randomized controlled trials, many of the therapies suggested are unable to be thoroughly evidence based. Hopefully, future multicentre studies will rectify this deficiency. The second section discusses the more common symptoms and signs in oral medicine.

The third section covers in some detail the most common and important conditions seen in oral medicine. This section also includes synopses of a number of eponymous and other conditions relevant to oral medicine; if a specific condition is not found there, the reader is referred to the index, since it may well be located elsewhere in the book.

The fourth section is a discussion of the important areas of HIV infection and iatrogenic diseases.

The other relevant oral manifestations of systemic disorders are tabulated in Appendix 1: further detail can be found in *Medical Problems in Dentistry* (Scully and Cawson: Elsevier, Edinburgh, 2004).

Agents used in the treatment of patients with oral diseases are outlined in Appendix 2. Only a limited number of these are prescribed by dental practitioners, but practitioners may have to cope with questions from patients about their treatment, or to recognize or deal with treatment complications. Further details can be found in textbooks such as *Basic Pharmacology and Clinical Drug Use in Dentistry* (Cawson, Spector and Skelly: Churchill Livingstone, Edinburgh, 1995).

An attempt has been made to present the material in such a way as to highlight the more important conditions – important because of frequency or seriousness – and to guide the reader through didactic and problem-oriented approaches. However, it is impossible to position every subject in a perfect location, not least because few conditions affect only one site (e.g. even erythema migrans can have lesions in sites other than on the tongue), some affect even more than one tissue (e.g. ectodermal dysplasia affects skin, salivary glands and teeth) and several have a range of clinical presentations (e.g. lichen planus and cancer can both present with white, red or ulcerative lesions, and can be symptomless or cause extreme discomfort). Cross-referring between sections will help the user get full value from the content.

The book is not intended to give all the details of the various investigative and therapeutic modalities, since these are covered in other texts by the author, or in pharmacopoeias. The book offers illustrative examples of the more common and important conditions, but cannot provide the more comprehensive selection of illustrations such as can be found in atlases such as *Oral Diseases* (Scully, Flint, Porter and Moos: Dunitz, London, 2004).

I thank my patients and nurses who have taught me so much over the years, and continue so to do, and all those students and colleagues with whom I have worked and interacted, who may have shared the clinical care of some patients, and/or may have knowingly or otherwise contributed ideas or content.

In this respect I thank especially Professors Oslei Almeida (Brazil), Jose-Vicente Sebastian-Bagan (Spain), Johann Beck-Managetta (Austria), Roman Carlos (Guatemala), Marco Carrozzo (Italy), Roderick Cawson (UK), Pedro Diz Dios (Spain), Drore Eisen (USA), Joel Epstein (Canada), Sergio Gandolfo (Italy), George Laskaris (Greece), Jens Pindborg (Denmark; deceased), Stephen Porter (UK), Peter Reichart (Germany), Pierre-Luigi Sapelli (Italy), Sol 'Bud' Silverman (USA) and Isaac Van der Waal (The Netherlands).

Thanks are also due to: Alan Drinnan (USA) for his innovative introduction of the Bulletin Board in Oral Pathology (BBOP), a useful world forum for oral medicine and pathology; to Miguel Lucas-Tomas (Spain), who founded the European Association for Oral Medicine – a major European forum; and to Dean Millard (USA) and David Mason (UK), who had the foresight to institute the World Workshops in Oral Medicine; to John Greenspan (USA) who had the foresight to organize the Oral AIDS workshops; and to Newell Johnson with whom I founded and co-edit Oral Diseases. These giants have helped the progression of oral medicine to the high level at which it now stands.

Much of my work could not be done without the support of my family (Zoe and Frances) and my work colleagues who help with information collection, particularly John Evans, Avril Gardner, Lesley Garlick and Karen Widdowson, to whom thanks are due. I thank Jose-Vicente Sebastian Bagan and Isaac van der Waal, and also my nephew, Dr Athanassios Kalantzis, for their helpful, friendly and constructive comments on the text.

Finally, I would be delighted to receive any comments about this text, in the hope that I can improve further in the future.

CS
2003

Learning aims and objectives

- Describe oral and maxillofacial diseases and their relevance to prevention, diagnosis and treatment
- Explain general and systemic disease of particular relevance to oral health
- Explain the aetiology and pathogenesis of orofacial disease
- Obtain, record, and interpret a comprehensive and contemporaneous patient history
- Undertake an appropriate systematic intra and extra-oral clinical examination
- Manage appropriate clinical and laboratory investigations
- Undertake appropriate special tests and diagnostic procedures
- Assess patients' levels of anxiety, experience and expectations in respect of dental care
- Generate a differential diagnosis
- Formulate an appropriate treatment plan based on the patient assessment and diagnosis
- Describe the range of orthodox complementary and alternative therapies that may impact on patient management
- Refer patients for treatment or advice when and where appropriate
- Explain and manage the impact of medical and psychological conditions in the patient
- Discuss the need for and make arrangements for appropriate follow-up care
- Recognise the responsibilities of a dentist as an access point to and from wider healthcare
- Provide patients with comprehensive and accurate preventive education and instruction in a manner which encourages self-care and motivation
- Describe the principles of preventive care and incorporate as part of a comprehensive treatment plan
- Underpin all patient care with a preventive approach that contributes to the patient's long-term oral and general health
- Describe in appropriate detail the health risks of diet, drugs and substance misuse, and substances such as tobacco, alcohol and betel on oral and general health and provide appropriate advice and support
- Assess and manage the health of soft tissues taking into account risk and lifestyle factors
- Manage oral disease and refer when and where appropriate
- Describe, take account of and explain to the patient the impact of the patient's health on the overall treatment plan and outcomes
- Evaluate, for individual patients, the need for more complex treatment and refer appropriately
- Recognise all stages of malignancy, the aetiology and development of tumours and the importance of early referral for investigation and biopsy
- Identify and explain appropriately to patients the risks, benefits, complications and contra-indications to medical and surgical interventions
- Communicate appropriately, effectively and sensitively at all times with and about patients, their representatives and the general public and in relation to difficult circumstances, such as when breaking bad news, and when discussing issues, such as alcohol consumption, tobacco smoking or diet.

Intended learning outcomes

This text will deal with oral and maxillofacial diseases and their medical management, and it is intended that, having read this text, the reader will be able to:

- Adopt a systematic approach to medical history taking that extends routine questions into certain relevant areas of enquiry that involve the body in general.
- Examine patients and their oral lesions systematically and use the findings of specific features of the lesion and associated signs and symptoms, to start formulating differential diagnoses.
- Identify which sites may be affected by the presenting condition and what to look for at those sites.
- Identify relevant follow-up questions that may further clarify the findings of the clinical examination and refocus the history.
- Understand when clinical investigations are indicated, which are appropriate, and how to perform these investigations.
- Interpret the findings of routine clinical investigations (e.g. blood test results) and develop a sense of the potential implications for the patient.
- Recognize the scope of oral and maxillofacial diseases and the importance of medical management in addition to the traditional dental focus of the discipline.
- Advise the patient about the aetiology of oral lesions, and predisposing factors.
- Identify lesions and interpret the findings and develop a sense of the potential implications for the patient.
- Understand how prevention may impact positively upon the condition.
- Identify a range of therapeutic options for the patient and understand the need for regular review and re-appraisal of the condition.
- Understand how treatment may impact, positively or negatively, upon the condition.
- Identify the need to refer for advice, investigations or treatment by dental, medical or surgical specialists.
- Recognize the importance of close liaison with colleagues in other disciplines, particularly imaging, medicine, pathology and surgery.

Education is not filling a bucket but lighting a fire

William Butler Yeates

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SECTION

1

FUNDAMENTAL PRINCIPLES OF PATIENT MANAGEMENT

It is better to know what kind of patient has the disease than what kind of disease the patient has.

Sir William Osler

1 Diagnosis: history

INTRODUCTION

Diagnosis means 'through knowledge' and entails acquisition of data about the patient and their complaint using the senses (HOTS):

- hearing
- observing
- touching
- sometimes smelling (**Fig. 1.1**).

The purpose of making a diagnosis is to be able to offer the most:

- effective and safe treatment
- accurate prognostication.

Diagnosis is made by the clinical examination, which comprises the:

- history (anamnesis) – this offers the diagnosis in about 80% of cases
- physical examination
- supplemented in some cases by investigations.

Each is based on a thorough, methodical routine. Diagnosis most importantly involves a careful history; the patient will often deliver the diagnosis from the history, though the findings from examination and investigations can be helpful, as can reference to the literature and Internet. To state the obvious, it is difficult to diagnose a condition that is unknown to the diagnostician; thus extensive reading of recent literature, clinical experience and discussion with colleagues is continually needed, as well as an enquiring mind. Continuing education is essential.

There are many types of diagnosis, including:

- Clinical diagnosis: made from the history and examination.
- Pathological diagnosis: provided from the pathology results.
- Direct diagnosis: made by observing pathognomonic features. This is occasionally possible, for example in dentinogenesis imperfecta where the abnormally translucent brownish teeth are characteristic.
- Provisional (working) diagnosis: the more usually made diagnosis. This is an initial diagnosis from which further investigations can be planned.
- Deductive diagnosis: made after due consideration of all facts from the history, examination and investigations.
- Differential diagnosis: the process of making a diagnosis by considering the similarities and differences between similar conditions.
- Diagnosis by exclusion: identification of a disease by excluding all other possible causes.

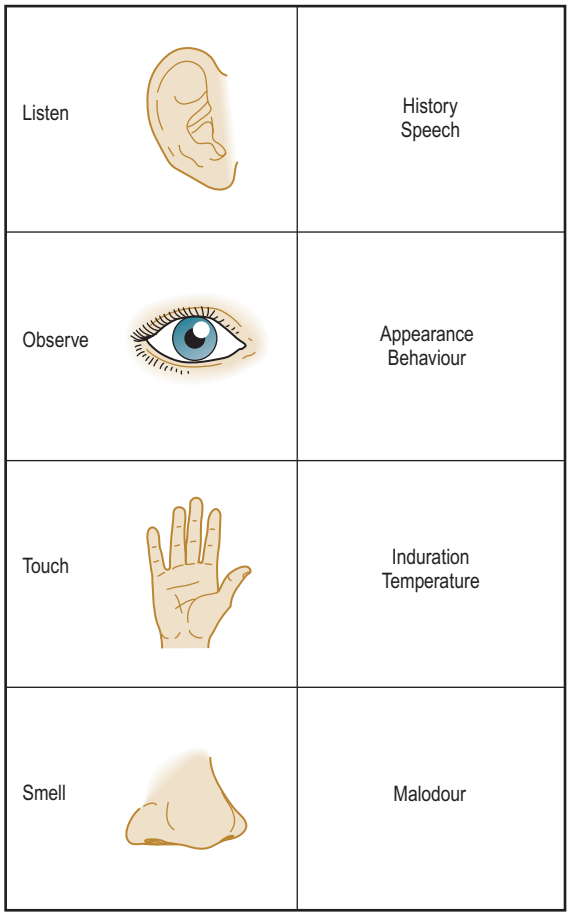

Fig. 1.1 The senses in diagnosis

- Diagnosis ex-juvantibus: made on the results of response to treatment. For example, the pain of trigeminal neuralgia may be atypical, and the diagnosis can sometimes be confirmed only by a positive response to the drug carbamazepine.
- Provocative diagnosis: the induction of a condition in order to establish a diagnosis. This is rarely needed, except in possible drug reactions or allergies, when the patient may need to be re-exposed to the potentially culpable substance, but this should always be carried out where appropriate medical support and resuscitation are available.

PROGNOSIS

Prognosis (from the Greek – literally fore-knowing, foreseeing) is a medical term to describe the likely outcome of an illness. A number of conditions and lesions seen in oral medicine, especially cancer and pemphigus, can have potentially serious prognoses (**Table 1.1**).

In any event, the crucial point is communicating clearly with the patient.

COMMUNICATING WITH THE PATIENT

Patients' attitudes to healthcare, the benefits and risks from examination, investigations and treatment, and the extent to which they find adverse effects tolerable, can differ markedly from assumptions of the clinicians. Effective healthcare communication incorporates not only medical and dental information, but also sensitive discussion of the patients' emotional and social wellbeing, always being culturally sensitive and tailoring to the patient's ability to understand.

Patients have personal wishes, needs and concerns that demand the understanding and respect of the clinician. Involving patients as full partners in decisions about treatment leads to better health outcomes. Healthcare should:

- provide respectful care
- meet the patient's personal, cultural and religious needs
- educate and inform on relevant health issues
- facilitate patients making their own choices
- respect those choices.

Communicating requires time and patience and expertise: language can be a huge barrier. One of the most obvious ways to assist communication is to have material available in relevant different languages and easily readable and understood.

Patient interviews are an opportunity to listen and ascertain the patient's feelings and concerns about healthcare and to explore what beliefs and practices are important to them. The clinician should use 'LEAPS':

- **L**isten
- **E**mpathize
- **A**sk
- **P**araphrase
- **S**ummarize.

The clinician should thereby endeavour to:

- Elicit the:
  - patient's main problems
  - patient's perceptions of their problems
  - physical, emotional and social impact of problems.
- Tailor information to what the patient wants to know, always checking understanding.
- Elicit the patient's reaction to information given.
- Determine how much the patient wants to participate in decision-making.
- Discuss management options.

Greetings can 'make' or 'break' the professional relationship, especially as is often the case, if the patient is older and/or from a different culture. Key points to remember include to:

- smile
- speak clearly and directly, making eye contact as appropriate
- greet using 'Good morning' or 'Good afternoon', or the greeting appropriate to their culture
- never use the first name alone, except when requested. Ask the patient what they prefer to be called but as a default and at the initial greeting use their title and surname
- be careful about touching
- explain who you are and what you do, what is happening and what will happen
- sensitively check whether the patient understands the conversation
- say a few words to put the patient at ease.
- encourage the patient to establish a professional relationship.

For many people from non-Anglo-Saxon cultures, the customary greeting is a gesture other than the handshake. In addition, some may be uncomfortable shaking hands with a person of the opposite gender. Unless you are certain of their culture or religion, it is better to greet a patient with a handshake, seeing first if the person offers their hand, and then say 'Good morning/afternoon' and use their title followed by their last name.

Communication can thus be achieved through:

- active listening
- empathy
- appropriately using open questions
- frequently summarizing
- clarifiying where needed
- clearly explaining concepts
- checking patient's understanding
- checking patient's compliance with management recommendations.

Specific skills such as questioning styles, active listening, providing information and avoiding negative communication behaviours (e.g. inappropriate affect, the inappropriate use of closed questions, or offering premature advice/reassurance), are crucial to success.

Avoid also the use of:

- technical terms and expressions
- abbreviations
- professional jargon
- abstract concepts
- colloquialisms
- idiomatic expressions
- slang
- metaphors
- euphemisms
- stereotype figures or symbols.

Give any bad or unpleasant news tactfully and slowly, maintain confidentiality and check with the patient exactly who can be told about their condition, when, and what they can be told.

A key healthcare professional (HCP) should be identified who the patient can contact for further information and act as an advocate. Most important is verbal interaction, but alternative information sources (e.g. written leaflets, computer systems, DVDs, etc.) can help.

Table 1.1 Clinical situations with potentially serious or life-threatening connotations

Features	Comments
Abnormal blood vessels supplying a lump	May be malignancy
Actinic cheilitis (solar elastosis)	Potentially malignant
Angioedema	Potentially lethal through airway obstruction
Behçet syndrome	May cause thromboses of dural sinuses or vena cavae
Cancer	Potentially lethal
Dysphagia	May be malignancy
Erythema multiforme	Potentially lethal if Stevens–Johnson syndrome or toxic epidermal necrolysis (TEN)
Facial palsy	May be malignancy or cerebrovascular event
Extraction socket not healing	May be malignancy
Headache	Any patient older than 50 years who develops headaches for the first time or who has a change in a chronic headache pattern should be taken very seriously. Raised intracranial pressure is also serious, since it may be caused by malignant hypertension, a tumour, abscess or haematoma. Meningeal irritation may indicate meningitis, metastases or subarachnoid haemorrhage and may present with severe headache with nausea, vomiting, neck pain or stiffness (with inability to kiss the knees) or pain on raising the straightened legs (Kernig sign). Subdural haematomas, malignancies and trigeminal neuralgia can be serious. Giant cell arteritis needs to be treated promptly to avoid loss of vision
HIV infection	Potentially lethal
Indurated lesion	Firm infiltration beneath the mucosa may be malignant
Lesion fixed to deeper tissues	To deeper tissues or to overlying skin or mucosa may be malignant
Leukoplakia	Potentially malignant
Lichen planus	Potentially malignant
Lump	Especially if hard may be malignant
Lymph node enlargement	Especially if there is hardness in a lymph node or fixation. Enlarged cervical nodes in a patient with oral carcinoma may be caused by infection, reactive hyperplasia secondary to the tumour, or metastatic disease. Occasionally, a 'positive' lymph node is detected in the absence of any obvious primary tumour
Lymphoma	Potentially lethal
Numbness	May be malignancy
Pain	May be malignancy
Pemphigus	Potentially lethal
Red lesion	Erythroplasia or erythroplakia may be malignant or potentially malignant
Red/white mixed lesion	Erythroleukoplakia may be malignant or potentially malignant
Submucous fibrosis	Potentially malignant
Syphilis	Potentially lethal
Tooth mobility	May be malignancy
Tuberculosis	Potentially lethal
Ulcer	If persistent, with fissuring or raised exophytic margins may be malignant or chronic infection
Weight loss	May be malignancy or infection such as HIV or TB
White lesion, especially if irregular surface	Verrucous leukoplakia may be malignant or potentially malignant

HISTORY TAKING

The first contact with the patient is crucial to success and there should be a courteous approach to the patient with a professional introduction and every effort to establish communication, rapport and trust, and make the patient feel the focus of the clinician's interest. History taking is part of the initial communication between the dentist and patient. It is important to adopt a professional appearance and manner, and introduce oneself clearly and courteously. The clinician should enquire early on as to the main complaint and relevant social aspects such as occupation. The patient will know if you care, well before they care if you know.

The clinician should encourage the patient to tell the story in their own words, and use methodical questioning to elucidate further details.

Perhaps not surprisingly, many patients are apprehensive when confronted by a clinician, and therefore they may be easily disturbed if, for example, the clinician appears indifferent or unsympathetic. This can result in barriers to effective communication, which will simply hinder the clinician.

Due cognizance must also always be taken of the age, cultural background, understanding and intelligence of the patient when taking the history. It is the clinician's responsibility to elicit an accurate history; if that necessitates finding an interpreter, for example, then the clinician must arrange this.

The history is best given in the patient's own words, though the clinician often needs to guide the patient, and may use protocols to ensure collection of all relevant points.

It is important to cover the following areas:

- general information (name, date of birth, gender, ethnic origin, place of residence, occupation)
- presenting complaint(s)
- history of each of the present complaints
- past medical history
- dental history
- family history
- social and cultural history including lifestyle habits (e.g. use of tobacco, alcohol, betel)
- patient expectations.

By the end of the history, the clinician should have an idea of the patient's concerns, have assessed the patient's current problems and also have drawn up a provisional or differential diagnosis.

PRESENTING COMPLAINT

The history taking commences by identifying the current complaint(s), e.g. 'sore mouth'. The 'history of the present complaint' is then taken.

HISTORY OF THE PRESENT COMPLAINT

This should cover aspects relevant to the particular main complaint, such as:

- date of onset
- duration
- location(s)
- aggravating and relieving factors
- investigations thus far
- treatment already received.

'Leading questions' (i.e. those which suggest the answer) should be avoided. 'Open questions', which do not suggest an answer, are preferred. The history should be directed by the complaint and in most oral medicine patients it is important to establish whether there are cutaneous, gastrointestinal, genital, ocular or joint problems or a history of fever. Some patients bring descriptions or diagrams (**Fig. 1.2**). Then a series of relevant questions should elicit the 'past or relevant medical history'.

PAST OR RELEVANT MEDICAL HISTORY

The medical history should be taken to elicit all matters relevant to the:

- diagnosis
- treatment
- prognosis.

As a double check on the verbal history, the use of preprinted, standardized, self-administered questionnaires is helpful, and may encourage more truthful responses to sensitive questions (**Table 1.1**).

The history should uncover, for example, medical history relevant to:

- Previous episodes of similar or related complaints.
- Other complaints that may be relevant. For example, in patients with mucosal disorders, it is important to ascertain whether there have been lesions affecting other mucosae (ocular or anogenital) or skin, hair or nails, gastrointestinal complaints, or fever.
- Important to include are:
  - General symptoms, such as fever or weight loss.
  - Relevant symptoms related to body systems, such as:
    - nervous system (e.g. sensory loss)
    - respiratory system (e.g. cough)
    - gastrointestinal disorders that may be associated with oral ulcers and other lesions
    - skin lesions (solitary or rashes), itch or discolourations, which are common symptoms of skin disease, and there are sometimes oral lesions
    - ocular problems or visual disturbance
    - anogenital lesions, such as ulcers or warts
    - psychiatric disorders, such as anxiety, depression and eating disorders, and drug abuse are relevant to orofacial conditions.
  - Medical or surgical consultations, investigations and treatments, including radiotherapy.
- Current prescribed drugs (including self-medications and alternative medicines), since these may cause oral complaints or influence management. *The British National Formulary (BNF)* or equivalent is often indispensible, since patients commonly misspell or do not know the names of, drugs they are taking.
- Complementary medicine.
- Previous illnesses.
- Hospitalizations and previous consultations.
- Operations.
- General anaesthetics.
- Specific medical problems that may influence operative procedures, particularly:
  - allergies.
  - bleeding tendency
  - cardiorespiratory problems.

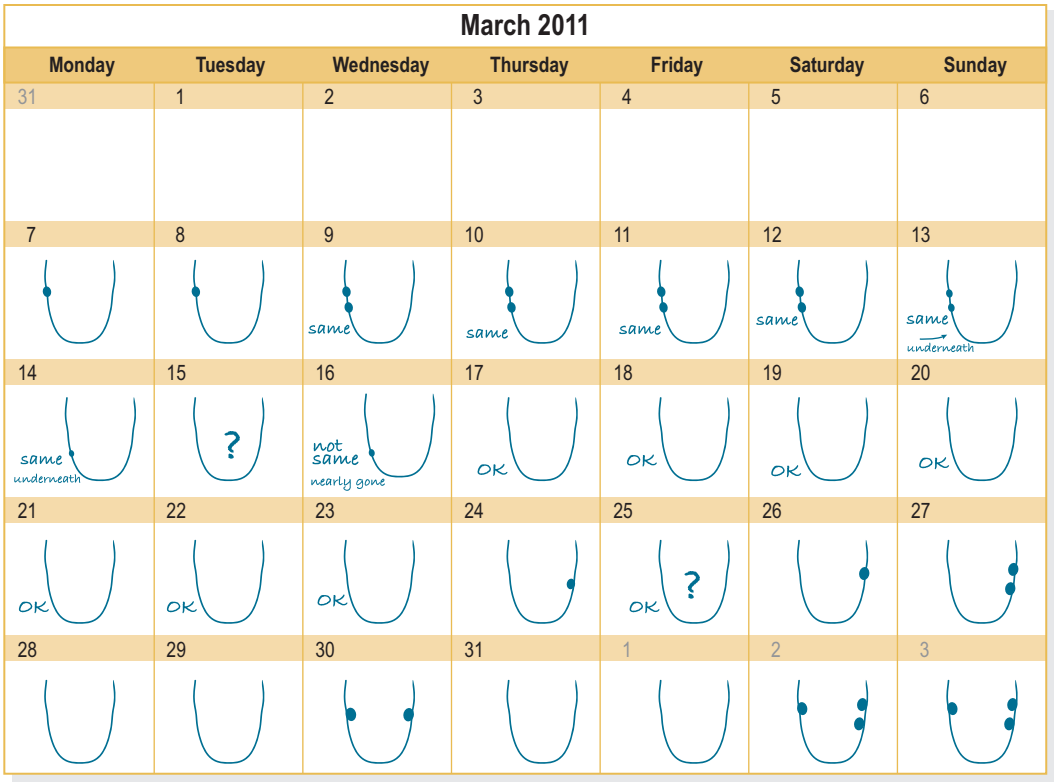

Fig. 1.2 Diary provided by patient showing recurrent tongue lesions

- drug therapy such as anticoagulants or corticosteroids
- endocrine disorders – especially diabetes
- infectious diseases.

Patients may also carry formal warnings of certain conditions relevant to dental care. These may be written cards, smart cards (there are two kinds – memory cards and microprocessor cards), or MedicAlert type bracelets or necklaces. These types of MedicAlert warning devices are recommended to be carried by anyone with:

- allergies to any drug or agent with the potential for causing a serious reaction
- chronic health problems, which might necessitate emergency treatment of a specific nature, such as: diabetes, epilepsy, glaucoma, or malignant hyperthermia
- the need to take regular medication, prosthesis, implants, and conditions which might lead to difficulty in diagnosis during emergency care, e.g. long-term anticoagulants, or long-term systemic corticosteroids.

Some patients bring quite precise written information which can be helpful (Fig. 1.3).

ABC

The medical history of dental patients should be directed to elicit any relevant systemic disease. For example, this may be achieved by an ABC:

- **Allergies or anaemia;** allergies can be a contraindication to use of materials such as latex. Anaemia: a reduction in haemoglobin level below the normal for age and gender can:
  - be a contraindication to general anaesthesia
  - cause oral complications (i.e. candidosis, sore mouth, burning tongue, glossitis, ulcers, angular stomatitis).
- **Bleeding tendency:** a hazard to any surgical procedure, including some injections, and a contraindication to aspirin and some other nonsteroidal antiinflammatory drugs (NSAIDs).
- **Cardiorespiratory disease:** this may be a contraindication to general anaesthesia. Patients with various cardiac lesions are predisposed to develop endocarditis, which may be precipitated as a consequence of the bacteraemia associated with some forms of dental treatment. Cardiac patients may have a bleeding tendency because of anticoagulants. Oral lesions may be seen – such as calcium channel blocker-induced gingival swelling, or oral ulceration with nicorandil. NSAIDs and itraconazole are contraindicated in severe cardiac failure.
- **Drug use, allergies and abuse:** these may cause orofacial lesions or give an indication about underlying pathology, or may influence dental procedures or drug use. Drug allergies are a contraindication to the use of the responsible or related drugs. Drug abuse may give rise to behavioural problems and a risk of cross-infection. Corticosteroids absorbed systemically produce adrenocortical suppression. Such patients may not respond adequately to the stress of trauma, operation or infection, and stress may produce adrenal crisis and collapse.
- **Endocrine disease.**
  - Diabetes may cause:
    - the danger of hypoglycaemia if meals are interfered with
    - oral complications such as sialosis, dry mouth and periodontal breakdown.

PRINCESS GRACE HOSPL. Harley Street London	Repair of right direct inguinal hernia using an open mesh technique. OPERATION .BFV3627- 13-11-01
Wimpole Street London W1G 8YF	Re Blood Pressure & Heart. Myocardial Perfusion Scan – 18-10-01
The London Clinic	Haemorrhoidectomy H5100 & Sigmoidoscopy OPERATION 17-05-2000
King Edward V11 Hospital	Cystoscopy (GA) M4510 OPERATION 29-06-1999
THE LONDON CLINIC	Laparoscopic cholecystectomy OPERATION 31-08-1996
King Edward V11 Hospital	Cystoscopy OPERATION 07-03-96
The Harley Street Clinic	Cystourethroscopy Bladder Biopsy & Cystodiathermy Urethral dilation. Ligation left Varicocoele. Excision left epididymal Cyst. OPERATION 16-05-1995
NORTHWICK PARK HOSPITAL	Lithotripsy (ESWL) ureteric calculus. 10-03-1994
CLEMENTINE CHURCHILL HOSPITAL	Cystoscopy, ureteroscopic Manipulation of calculus, instertion of Ureteric JJ stent M3000 & M2920 OPERATION 22-02-1994 Removal of JJ ureteric stent 04-03-1994
Harley Street Clinic	Cystourethroscopy & Transurethral Prostatectomy OPERATION 08-02-1990

Fig. 1.3 Part of medical history provided by patient

- Hyperparathyroidism may cause:
  - jaw radiolucencies/rarefaction
  - loss of lamina dura
  - giant cell granulomas (central)
  - hypercalcaemia and hyposalivation.
- **Fits and faints:** epilepsy and other causes of unconsciousness should be elicited before embarking on any procedures. Oral lesions may be seen, such as phenytoin-induced gingival swelling.
- **Gastrointestinal disorders:** are relevant mainly because of possible vomiting with general anaesthesia, and possible oral manifestations.
- **Hospital admissions, attendances and operations:** this information often helps fill in gaps in the medical history, and may be relevant if, for example, the patient has had a previous halothane anaesthetic or has had radiotherapy. Successful prior surgery in the absence of any serious postoperative haemorrhage also suggests the absence of any inherited bleeding tendency.
- **Infections:** the possibility of transmission of infection to patients or staff is ever present:
  - blood-borne infections: hepatitis viruses B and C, and HIV are the main agents of concern
  - respiratory infections: current or very recent respiratory infections, particularly tuberculosis, may be transmissible and a contraindication to general anaesthesia
  - sexually shared infections: imprecise diagnosis or empirical treatment serves only to spread these infections, as contact tracing is normally undertaken only on proven cases of sexually transmitted (venereal) disease.
- **Jaundice and liver disease:** these are important because of the associated bleeding tendency, drug intolerance and possible viral hepatitis and oral carcinoma.
- **Kidney disease:** this may cause a bleeding tendency and impaired drug excretion. The other main problems are in relation to the immunosuppression created following a kidney transplant, liability to neoplasia, and gingival swelling from ciclosporin.
- **Likelihood of pregnancy:** because of the danger of abortion or teratogenicity, it is important during pregnancy, particularly the first trimester, to avoid or minimize exposure to drugs, radiography and infections. Pregnancy can influence some conditions such as aphthae, pyogenic granulomas and Behçet syndrome, and may produce gingivitis or epulides.
- **Malignant disease,** including those on radiotherapy or chemotherapy (where oral lesions may occur): malignant disease may underlie some oral complaints, such as pain or sensory changes and can result in significant morbidity and even mortality. Oral complications are very common after cancer therapies.
- **Neuropsychiatric conditions:**
  - Down syndrome: there are many oral problems and cervical spine involvement may predispose to spinal cord damage during general anaesthesia
  - mental health: there are many oral problems and drug therapy may produce oral conditions, such as dry mouth.
- **Other relevant conditions:** every condition which is elicited from the medical history should be checked for relevance, but the following can be highly relevant:
  - glucose-6-phosphate dehydrogenase deficiency is a contraindication to some drugs
  - hereditary angioedema: any dental trauma may result in oedema and a hazard to the airway
  - malignant hyperthermia (malignant hyperpyrexia): various general anaesthetics and other agents may be contraindicated