LETTERS TO THE EDITOR

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ORAL HEALTH

Risk definition in halitosis

Sir, we read with great interest the paper *Halitosis: a new definition and classification* (*BDJ* 2014; **217:** E1). However, we believe the authors have misunderstood some very important issues.

The International Association for Breath Research[1] has just confirmed the classification described by Miyazaki *et al.* as the international standard.[2] The International Association for Halitosis Research, previously International Society for Breath Odor Research, has also endorsed this classification.[3] The classification defines treatment needs (TN), including zinc-containing mouthwash. If TN 1 or 2 do not work, the dentist may suspect a general condition, and the patient can be easily referred to a specialist for further medical diagnosis. Halitophobia is also easily referred. Since the definitions of extra-oral pathological halitosis and halitophobia are broad, specific skills and a medical licence is not required for dentists to diagnose these conditions. The authors claim that their criteria can make the choice of a specialist for referral much easier, 75% of the criteria are medical, and that multiple diagnoses are possible because three medical criteria are included. The authors conclude that their criteria offer a more precise classification of extra-oral halitosis. However, in order to diagnose using their criteria, there must always be medical specialists involved. Otherwise, dental practitioners will be forced to diagnose these medical conditions themselves, even though dentists cannot legally tell patients that their condition involves a gastroesophageal, airway or blood-borne condition, making these criteria impractical for dentists to use. The standard classification clearly distinguishes between the responsibilities of medical and dental practitioners in order to avoid malpractice, but the authors have removed that distinction.

They have also made large scientific errors. Halitosis can originate in the sinus, tonsils or nose. Following these criteria, the practitioner must diagnose both an airway and a gastroesophageal (ironically including the airway) condition. There are three errors: the question arises of whether this constitutes multiple diagnoses, whereas the dentist may easily diagnose it as extra-oral pathologic halitosis. The authors also claim that all their criteria involve physiologic halitosis, but this is not the case: physiologic halitosis is caused only by volatile sulphur compounds produced in the oral cavity. Lastly, because of their misunderstanding of the causes of halitosis, they believe that organoleptic measurements correlate with amines found

CLINICAL ASSESSMENT

Sir, we read with interest the recent paper by Bots *et al.* (*BDJ* 2014; **217:** 80) on the assessment of oral dryness by photographic appearances of the tongue. Perhaps not surprisingly, visual inspection of photographs of tongues was unreliable in diagnosing oral dryness. We would concur with the authors conclusion that 'further clinical inspection of the oral cavity is indicated'.[1]

As mentioned by Dr Murray Thomson in his commentary, we have developed a scale for clinical oral dryness[2] to try and address this exact problem. Most oral healthcare workers who see patients regularly can recognise a number of signs and symptoms which suggest that the patient may have a dry mouth, but assessment of the degree of dryness is notoriously difficult. It is apparent that a reproducible clinical scale of dryness might allow the clinician to determine whether the dryness is mild and could be managed with local measures and advice in the surgery (such as that secondary to xerogenic drugs) or whether it is severe and requires the patient to be referred for further investigation as to the cause and management. It is also important to distinguish between *xerostomia* which is accepted as reflecting symptoms of dryness and *hyposalivation* where a reduced salivary flow is demonstrated. Xerostomia is not always associated with hyposalivation[3] which is why attempts to correlate the two are often unsuccessful.

A clinical oral dryness score (CODS) for clinical signs has been developed[2] and has been found to be reliable and easy to use for routine assessment of the severity of dry mouth.[4] The scale is based on ten key features of dry mouth, accompanied by example images, and allocates one point for each feature.[2] The use of any single feature of dryness for assessment was found to be unreliable. CODS can be incorporated into the routine clinical assessment of dry mouth patients, particularly since the clinician would normally be undertaking most aspects of the clinical assessment routinely. In general practice, a low COD score (1-3) indicates mild dryness manageable normally in practice, whereas a high COD score (7-10) is an indication for referral for further investigation. CODS seems to be closely related to both the unstimulated salivary flow and the thickness of the mucin layer over the epithelium (mucosal wetness) suggesting a physiological basis to the feeling of xerostomia.[3]

Clinical diagnoses usually require both a clinical history and a clinical examination (often aided by investigations). Xerostomia and hyposalivation would appear to be no exception.

S. J. Challacombe, G. B. Proctor, London

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DOI: 10.1038/sj.bdj.2014.959