The oral healthcare professional's role in the assessment and treatment of eating disorders

Dental hygienists are in a prime position to assess and treat the symptoms of eating disorders, and refer to the proper medical healthcare professionals. Some patients may readily share that they have been diagnosed with these conditions, while others may present with symptoms that suggest their presence. This would indicate immediate referral to a medical professional who specializes in disordered eating. Eating disorders are varied and include (but are not limited to) anorexia nervosa, bulimia nervosa and eating disorder not otherwise specified – partial bulimia nervosa. This article reviews the role of the oral healthcare professionals in the recognition of oral symptoms of eating disorders, as well as the aetiology, symptoms and risks of eating disorders.

A research team conducted a study to assess oral healthcare professional's willingness and ability to assess disordered eating (1). Data were collected from 576 dentists and dental hygienists in the USA via a self-administered questionnaire that listed five criteria (specific secondary prevention behaviours): identification of oral manifestations of disordered eating; addressing concerns with the patient; prescribing oral treatment; patient referral; and case management. The depressing results are that fewer than 44% of practitioners currently assessed their patients for eating disorders. We can do better with secondary prevention and assessment of these serious, and sometimes life threatening, disorders!

Eating disorders are a common chronic condition of adolescents (2) and are a cause of significant morbidity and mortality (3). They are more common in females (4), and the risk of eating disorders was shown to increase threefold if individuals experienced body dissatisfaction and believed they were not loved by their mother. Only about 10% of eating disorders involve males, and can be seen in children as young as six and individuals as old as 76 (available at: http://www.anred.com/stats.html). Colleges have been shown to trigger eating disorders, as the sometimes stressful environment and changes associated with college may increase risk factors. These may include: loneliness; depression; problems sleeping; substance abuse; peer pressure; lack of access to good nutrition and nutrition counselling; and the inconvenience of finding time for proper nutrition. Many students have bad habits before they reach college, and the pressures of college may exacerbate already existing psychiatric conditions, such as depression, anxiety disorders or abuse of drugs or alcohol (5). The causes of eating disorders are multifactorial including genetics and the environment. Examples of the environmental influences include the fact that women's magazines now contain 10 times more advertisements promoting weight loss than men's magazines, and that the weight of Miss America has declined 12% since 1920s! (6, 7). Many females have unrealistic expectations of beauty and attempt to achieve 'Barbie doll' proportions. An average woman is about 5′4″ (1.6256 m) and weighs about 145 pounds (65.91 kg). A Barbie doll would be about 6′ (1.83 m) tall and weigh 101 pounds (45.8136 kg)! (http://www.anred.com/stats.html).

Relevant to assessment of eating disorders is obtaining a thorough medical history in the dental office. As mentioned previously, dental hygienists and dentists can do a better job at this! A good medical history includes asking questions about products consumed by an individual including prescription medications, over-the-counter products and herbs and supplements. One study (8) described the use of herbal remedies in adolescents with eating disorders. It was reported that 37% of the studied population used herbal remedies for a range of indications; 35% of use was due to the belief that the preparation was a laxative, appetite suppressant or would induce vomiting. These individuals most likely gained knowledge about herbal remedies from their parents, often stated their parents also used herbal remedies, and affirmed the parents were the most common purchasers of the herbal remedy.

Those with anorexia may realize extreme weight loss by severely restricting calorie intake, and bulimia is characterized by compulsive overeating (binging) followed by self-induced purging. Both produce sign that can be detected in the mouth during a routine oral examination. The oral manifestations in both types of patients may vary in severity with the duration of the disorder in the individual, the degree and frequency of destructive eating behaviours, dietary habits and oral hygiene self-care. Oral symptoms may include xerostomia, reddening of

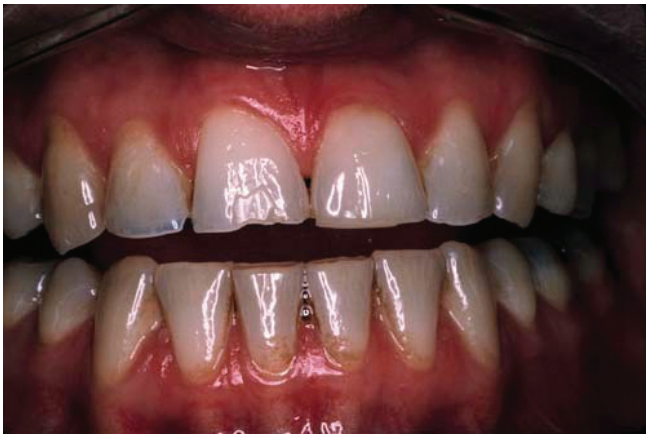

Fig 1. Erosion of the facial of both the maxillary and mandibular anterior teeth.

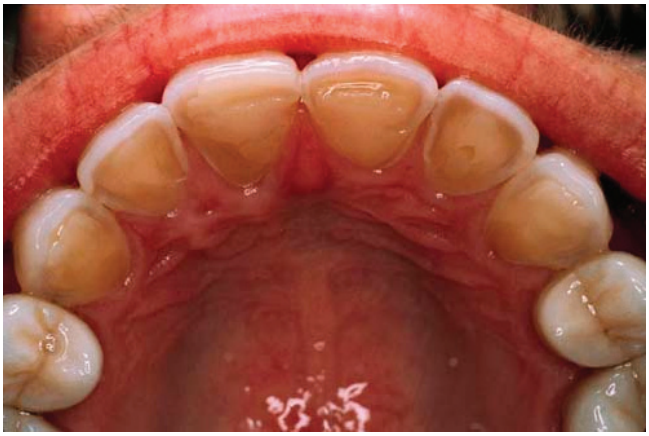

Fig 2. Erosion of the maxillary teeth.

the palate, signs of oral trauma, swelling of the parotid glands (if the individual purges by vomiting) and chapped lips. Repeated purging by vomiting, which is a common characteristic of both disorders, exposes teeth to gastric acids which erode tooth enamel. The teeth may become rounded or chipped, can be sensitive and amalgam fillings may protrude above the tooth's surface (floating amalgams) (Figs 1–3). Oral care should be initiated, including: encouragement of frequent brushing and flossing; rinsing with bicarbonate of soda and water frequently throughout the day to insure a neutral pH; rinsing with fluoride daily to protect tooth enamel; and more frequent maintenance appointments. Comprehensive oral reconstruction should not be attempted before the medical condition is in control. Eating disorders can often be successfully treated when detected early, and patients with known or suspected eating disorders should be referred immediately for medical (psychiatric) health care.

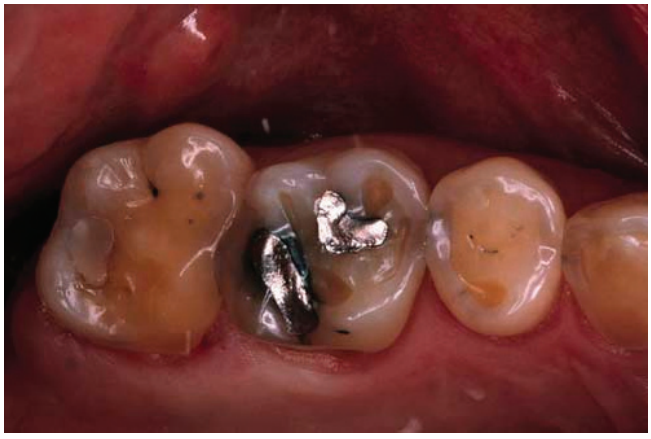

Fig 3. Restoration on posterior teeth appears to 'float' higher than adjacent tooth structures.

An eating disorder less often encountered is pica. This disorder is typically defined as the compulsive eating of non-nutritive substances for a period of at least 1 month at an age for which this behaviour is developmentally inappropriate (after age 18–24 months), and not a culturally sanctioned practice (9). Pica behaviour is also known to occur ritualistically in some cultures. Geophagia (clay ingestion) is the most common form of pica, occurring in tribe-oriented societies as well as in people living in the tropics. However, individuals with pica presenting with iron deficiency anaemia may present with glossitis (sore, smooth and/or redness of the tongue), xerostomia and dysphagia. In the US, the prevalence of pica is unknown because the disorder often is unrecognized and under-reported, but is reported most commonly in children and in individuals with mental retardation. Internationally, pica occurs throughout the world (9). Geophagia is the most common form of pica in people who live in poverty and people who live in the tropics and in tribe-oriented societies. Pica is a widespread practice in western Kenya, southern Africa and India. Pica has been reported in Australia, Canada, Israel, Iran, Uganda, Wales and Jamaica. In some countries, Uganda for example, soil is available for purchase for the purpose of ingestion (9).

The stigma associated with eating disorders has kept individuals suffering in silence, inhibited funding for crucial research and created barriers to treatment. There is now some research to suggest that an erroneous immune reaction against 'self' proteins may play a role in psychological aspects of disordered eating (10). Eating disorders present a challenge for health professionals and patients, but it is essential that oral healthcare professionals learn the symptoms of eating disorders and offer assistance when necessary. As dental hygienists, we can help to promote healthy body image and hopefully be

instrumental in preventing eating disorders. Also, we can detect the oral physical damages that may accompany these disorders and make appropriate referrals.

Acknowledgement

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References

1 DeBate RD, Tedesco LA, Kerschbaum WE. Knowledge of oral and physical manifestations of anorexia and bulimia nervosa among dentists and dental hygienists. *J Dent Educ* 2005; **69:** 346–354.
2 Lucas AR, Beard CM, OíFallo WM, Kurland LT. 50 year trends in the incidence of anorexia nervosa in Rochester Minnesota: a population based study. *Am J Psychiatry* 1991; **148:** 917–922.
3 Nielsen S, Moller-Madsen S, Isager T et al. Standardized mortality in eating disorders: a quantitative summary of previously published and new evidence. *J Psychosom Res* 1998; **44:** 413–434.
4 Neumark-Sztainer D, Wall M, Story M, Fulkerson JA. Are family meal patterns associated with disordered eating behaviors among adolescents? *J Adolesc Health* 2004; **35:** 350–359.
5 Lamberg L. Advances in eating disorders offer food for thought. *JAMA* 2003; **290:** 1437–1442.
6 Andersen AE, DiDomenico L. Diet vs. shape content of popular male and female magazines: a dose-response relationship to the incidence of eating disorders? *Int J Eat Disord* 1992; **11:** 283–287.
7 Rubinstein S, Caballero B. Is Miss America an undernourished role model? *JAMA* 2000; **283:** 1569.
8 Trigazis L, Tennankore D, Vohra S, Katzman DK. The use of herbal remedies by adolescents with eating disorders. *Int J Eat Disord* 2004; **35:** 223–228.
9 Ellis CD, Schnoes CJ. *Eating Disorder: Pica. Emedicine.com*. Available at: http://www.emedicine.com/ped/topic1798.htm (accessed 10 October 2005).
10 *PNAS Early Edition*. Online September 26, 2005. Available at: http://www.nlm.nih.gov/medlineplus/news/fullstory_27200.html (accessed 10 October 2005).

Additional resources:

1. http://www.nlm.nih.gov/medlineplus/eatingdisorders.html
2. http://www.nice.org.uk/page.aspx?o = 101239
3. http://www.channel4.com/life/microsites/H/helplines/phone_g_eatdisorder_a.html
4. http://www.anred.com/stats.html
5. http://www.nimh.nih.gov/publicat/eatingdisorders.cfm

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