Understanding and treating patients with eating disorders

Knowledge can save lives

Table 1: Medical complications of eating disorders.11, 12

<table>
<thead>
<tr>
<th>Condition</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Digestive system</strong></td>
<td></td>
</tr>
<tr>
<td>• Inflamed gums</td>
<td>Swollen parotid glands and sore throat related to purging</td>
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<tr>
<td>• Gastric bleeding</td>
<td>Stomach might rupture during bingeing</td>
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<tr>
<td>• Gastric laceration due to vomiting</td>
<td>Ruptured oesophagus, or Mallory-Weiss lesions (gastro-oesophageal laceration syndrome), due to vomiting</td>
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<td><strong>Skin (especially with anorexia)</strong></td>
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<tr>
<td>• Clubbed fingers</td>
<td>Russell’s sign: calluses, scars or abrasions on the knuckles of the dominant hand, related to inserting the fingers in the mouth to induce vomiting</td>
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<tr>
<td>• Hypothyroidism</td>
<td>Carotenoderma, orange pigmentation of skin, especially on the palms of the hands, related to excessive intake of foods containing carotene</td>
</tr>
<tr>
<td><strong>General</strong></td>
<td></td>
</tr>
<tr>
<td>• Electrolyte imbalance</td>
<td>Fatigue</td>
</tr>
<tr>
<td>• Electrolyte imbalance</td>
<td>Dehydration, malnutrition</td>
</tr>
<tr>
<td><strong>Extremities</strong></td>
<td></td>
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<tr>
<td>• Cold hands and feet related to peripheral vasoconstriction</td>
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<tr>
<td>• Hypothermia</td>
<td></td>
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<tr>
<td><strong>Electrolyte imbalance</strong></td>
<td></td>
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<tr>
<td>• Low white blood cell count and impaired immunity</td>
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<tr>
<td>• Anaemia</td>
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<tr>
<td><strong>Electrolyte imbalance</strong></td>
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According to the US National Institute of Dental and Craniofacial Research, 28 per cent of patients with bulimia are first diagnosed at a dental appointment. Although dentists are in an ideal position to detect the warning signs of eating disorders, research has found that knowledge of the oral and physical signs of these conditions is often limited.

Nevertheless, we have an ethical obligation to increase our knowledge and participate in secondary prevention of eating disorders, as it could improve prognosis and even be a lifesaver for some patients. Research has shown that such disorders have the highest mortality rate of all psychiatric illnesses.12 We need to initiate timely interventions, to minimise damage to the oral hard and soft tissue, and instigate medical referral for access to specialists in treating eating disorders.

An overview of eating disorders

Eating disorders are psychiatric illnesses characterised by disordered eating and disturbed attitudes to eating and body image. They are often accompanied by inappropriate, dangerous methods of weight control. The three most common eating disorders are bulimia nervosa (binge-purge), anorexia nervosa (starvation) and binge-eating disorder (bingeing without purging).12 There are variations of disordered eating, including eating disorders not otherwise specified.5 These include diabulimia,6 where individuals intentionally take insufficient insulin in order to lose weight; anorexia athletica, which is obsessive, excessive exercising to the point of being detrimental to health; and bigorexia, or muscle dysmorphia, where the individual perceives his or her body to be underdeveloped, despite having a large, muscular physique. Orthorexia nervosa is an obsession with the quantity and quality of the food consumed. The compulsive, excessive intake of food during the hours normally reserved for sleep—often getting up multiple times during the night to eat—is called night eating syndrome. Finally, there is pica, the persistent eating of non-food substances, and various food-related phobias.

The UK has the highest rate of eating disorders in Europe. Recent figures suggest that 1 in 100 British women have a clinically diagnosed eating disorder. In the US, anorexia nervosa is the third most common chronic illness among adolescents.7 Eating disorders occur mostly in females aged 15–25, but also occur in males, in children as young as 7 years of age, and in people aged over 50.

As one of the most common eating disorders, bulimia nervosa is characterized by a pattern of consumption of massive amounts of food (binge eating) and recurrent inappropriate weight control behaviours. These include purging through self-induced vomiting, abuse of laxatives and other substances, as well as behaviours such as fasting (not eating for at least 24 hours) or excessive exercise. The weight of bulimic individuals tends to fluctuate, but remains within normal limits. About one-third of bulimics have a history of anorexia nervosa, and some have a history of obesity.

During bingeing, bulimic individuals usually consume between 1,500 and 5,000 calories...
within 1 or 2 hours, and have been known to consume as much as 60,000 calories in one bulimic binge. They typically eat sweet, high-calorie foods, which are easy to consume quickly, like ice cream. This is followed by depression, panic and guilt, and a compulsion to purge. These episodes occur at least twice weekly over a period of several months. Some bulimic individuals even vomit five or six times per day. Most bulimics who do so in the act of purging.

Anorexia nervosa is characterised by a refusal to eat enough to maintain body weight within 15 per cent of the minimal normal weight for age and height (the anorexic individual is often 20 per cent to 40 per cent below a healthy body weight); they have an extreme fear of gaining weight; and a distorted body image, which results in patients believing that they are fat, even when they are emaciated; and amenorrhea (absence of menstruation).

A significant number of anorectic individuals also purge, and some have pica; they may consume cotton balls soaked in orange juice, for example, to control hunger. The main difference between bulimia nervosa and purging anorexia is that the individual with anorexia is underweight.

Binge-eating disorder is characterised by frequent consumption of abnormally large amounts of food in one sitting, while feeling a loss of control over eating. Individuals with this disorder do not purge afterwards, but feel depressed and guilty after overeating. Most individuals with binge-eating disorder are obese, with the related increased risks of diabetes, heart disease, certain cancers, and arthritis.

Aetiology
The aetiology of eating disorders is multifactorial and not completely understood. Contributing factors, however, include living in a culture where thinness is generally admired. There are indeed unrealistic depictions of beauty and thinness in most media. At about 6 feet (1.82 m) tall and 117 pounds (53.07 kg), today’s fashion model weighs 23 per cent less than the average woman. Some overachieving perfectionists who do not fit this questionable ideal develop eating disorders. They have not only a low self-esteem, but also a distorted perception of body shape, as well as a poor body image.

The risk of a female developing anorexia nervosa increases ten to 20 times if she has a sibling with the disorder. Eating disorders often occur in individuals who have suffered physical or psychological trauma, and are frequently accompanied by other psychiatric illnesses, such as depression, anxiety, self-harm (such as cutting), obsessive-compulsive disorder, and chemical dependency.

Oral findings
Traumatic lesions on the palate and oropharynx are caused by insertion of objects to induce vomiting. Signs of nutritional deficiencies occur, such as angular cheilitis, candidiasis, glossitis, and oral mucosal ulceration. Individuals with eating disorders also experience a dry mouth related to dehydration or xerogenic medications, such as antidepressants and anti-anxiety agents.
lary anterior teeth. Dental erosion due to purging by vomiting becomes apparent about six months after onset. It eventually undermines the palatal surfaces and leads to incisal fractures and chipping, and over-eruption of the mandibular anterior teeth. Erosion also occurs in the posterior teeth, causing perimolysis: tooth tissue surrounding restorations is eroded, leaving the restorations with a raised, island-like appearance. Eroded occlusal contacts also lead to loss of vertical dimension.

Bulimics tend to consume foods high in refined carbohydrates, and individuals with eating disorders often consume acidic diet beverages. Therefore, they have a high caries risk and impaired salivary buffering capacity. Dental hypersensitivity is also common. The loss of bone density increases the risk of jaw fracture during extractions.

Dental management of patients with eating disorders: Medical treatment of eating disorders includes nutritional therapy to treat the medical complications and the starvation-related brain changes that perpetuate the illness. This is combined with psychotherapy and medication, such as antidepressants. Individuals with eating disorders also need regular dental visits in a supportive environment, for continuing care. They must be regarded as medically compromised, owing to the risk of grave medical complications, particularly cardiac arrest due to electrolyte imbalance.

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Table 2: Psychological aspects of eating disorders.

- Depression, anxiety
- Perfectionism, overachiever
- Low self-esteem
- Mood swings
- Guilt, shame
- Alienation, loneliness
- Social isolation
- Eating alone
- Compulsive behaviours
- Misperception of hunger and satiation
- Obsessive thoughts about food, calories and weight often weighing themselves several times per day.
- Secrecy and denial of their illness: individuals with anorexia nervosa often dress to hide their body shape, and they might put coins in their pockets when being weighed.
- They often claim to have food allergies in order to justify their restrictive diet.

Trends & Applications
The SCOFF questions*

- Do you make yourself Sick because you feel uncomfortably full?
- Do you worry you have lost Control over how much you eat?
- Have you recently lost more than One stone (6.35 kg) in a three-month period?
- Do you believe yourself to be Fat when others say you are too thin?
- Would you say that Food dominates your life?

*One point for every “yes”; a score of 2 indicates a likely case of anorexia nervosa or bulimia.

Table 3: The SCOFF questionnaire utilises an acronym in a simple five-question test devised for use by non-professionals to assess the possible presence of an eating disorder.

When an eating disorder is suspected, this sensitive topic needs to be approached in a non-judgemental, non-threatening manner. It is beyond our scope of practice to diagnose eating disorders, but we can present the findings of our examination to the patient.24 For example, if there is dental erosion, we could mention some possible causes, like acidic drinks, acid reflux or frequent vomiting. This gives the patient an opportunity for disclosure. If he or she discloses his or her eating disorder to us, he or she should be referred to his or her physician. If he or she is not ready to tell us, we can still be supportive and initiate a prevention protocol based on our clinical findings.

Definitive dental restorations cannot be completed while a patient is purging regularly, as acid erosion will compromise the restorations. Only essential restorative work should be done, to limit tooth damage and keep the patient free of pain. Pending the patient’s recovery from his or her eating disorder, the dental hygienist can provide interventions to limit damage to the oral hard and soft tissue, and relieve xerostomia and dental hypersensitivity. During dental hygiene appointments, such patients should be polished with a non-abrasive fluoride paste. A protocol to reduce caries risk should include in-office fluoride varnish applications, plus self-applied neutral fluoride, and calcium and phosphate products, such as NovaMin, Recaldent and nano-hydroxyapatite, to remineralise and de-sensitise.

Xylitol-containing products, such as toothpastes, gum and candies, are also beneficial. When used for 5 minutes, five times per day, they stimulate saliva flow, reduce the oral population of cariogenic bacteria, and reduce oral acidity. Patients should brush three times per day with a soft brush and a toothpaste containing 5,000 ppm fluoride. They should clean the interproximal embrasures daily and clean their tongue too, to remove biofilm and acid residue.

A mouth guard can be used to protect the dentition during vomiting. Brushing directly after vomiting causes more loss of tooth structure, and rinsing with water reduces the protective properties of the saliva. Instead, the oral pH should be neutralised by rinsing with one teaspoon of sodium bicarbonate in 250 ml water, or with a product containing calcium and phosphate ions. For additional support, we can share information on resources for those who struggle with eating disorders.25 With increased knowledge and vigilance, dental care professionals can enhance detection of warning signs of eating disorders, for improved patient care and favourable outcomes.

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Contact Info
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The 36th Australian Dental Congress
Brisbane Convention and Exhibition Centre - an AEG 1EARTH venue
Wednesday 25th to Sunday 29th March 2015

Invitation from the Congress Chairman
On behalf of the Local Organising Committee of the 36th Australian Dental Congress, it is with great pleasure that I invite you to attend Congress and enjoy the river city of Brisbane.

Over three and a half days, highly acclaimed International and Australian speakers supported by contemporary research, will present a wide range of subjects relevant to practice. These presentations will be complemented by hands on workshops, Lunch and Learn sessions, specific programmes for members of the dental team.

Social activities will be available for relaxation purposes.

The Brisbane Convention Exhibition Centre is adjacent to the Southbank Precinct on the banks of the Brisbane River. Nearby is the Queensland Performing Arts Complex, the Queensland Museum and the Queensland Art Gallery and Gallery of Modern Art. A comprehensive industry exhibition will be held alongside the Congress enabling delegates access between scientific sessions to view the latest in equipment and materials.

Come and join us for the scientific programme, the opportunity to meet colleagues and the experience Brisbane has to offer.

Dr David H Thomson
Congress Chairman
36th Australian Dental Congress