CHAPTER 1

Diagnosis of Eating Disorders

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OVERVIEW

- 'Eating disorders' is a misnomer for obsessive weight-losing disorders ('anorexia nervosa') and other body image-related disorders ('bulimia nervosa' and 'binge eating disorder').
- Sufferers value weight loss, and see their weight-losing behaviour as essential to avoid fatness. A sympathetic climate of awareness is essential for diagnosis.
- At low weight, the physical and psychological consequences of starvation amplify the obsessive drive for thinness and cause risk to life.
- At low weight physical risk results from impaired resistance to infection, self-poisoning (accidental or deliberate), electrolytic instability and damage to heart muscle.
- Quality of life can be improved long-term by diagnosing eating disorders and remaining engaged so that risk can be managed during the long recovery process.

Most people occasionally experience disordered eating, and resolve to be more restrained. Women—who make up 90% of sufferers from eating disorders—especially struggle between appetite and food adverts on one hand, and the dictates of fashion designers and warnings of obesity experts on the other. Ten per cent of teenage girls induce vomiting from time to time, and 4% of young women will develop a significant eating disorder during their life. How can we distinguish between transient disordered eating and more lasting problems that damage health—and, in the extreme, threaten life itself (Box 1.1)?

Eating behaviours span a range of body weights, behavioural and psychological disturbances (Figure 1.1). There are core diagnostic criteria for anorexia nervosa (AN) (Box 1.2), bulimia nervosa (BN) (Box 1.3) and—most recently—for binge eating disorder (BED). Patients should be treated according to the 'best fit' of symptoms.

What are 'eating disorders'?

In fact eating is not the only disordered behaviour in what might be better thought of as 'weight-losing disorders'. Self-starvation, self-induced vomiting, compulsive activity and exercise, use of laxatives, diet pills, herbal medicines and deliberate exposure to the cold are some of the behaviours seen in the pursuit of thinness. For the majority of eating disordered people today, the pursuit of thinness seems like a culturally endorsed solution to life's difficulties and a route to better self-esteem (Box 1.4). For the minority with low weight AN, cultural factors coexist with a predisposition to experience satisfaction or relief as a result of weight loss. This 'addiction' to self-starvation can exist even in the absence of cultural approval of thinness.

Box 1.1 **Mortality in eating disorders**

Sten Theander's early follow-up studies found that a shocking 20% of anorexic patients died of causes related to the disorder. Even now, mortality in anorexia nervosa is 10 times that in the general population and is among the top three or four causes of death in teenagers. Today's lower mortality figures partly reflect changes in diagnostic criteria—we now require only 15% body weight to be lost before making the diagnosis (or BMI below 17.5) compared with 25% (BMI below 15).

Improved management may also contribute to more favourable longevity—it is now acknowledged that a tolerant, respectful relationship allows long-term physical monitoring and support to be offered during the years it often takes for patients to summon the motivational strength to overcome their obsessive weight-losing behaviour. A significant minority do not fully recover but are at least enabled to live valuable or tolerable lives.

Some deaths result from ambivalently-taken overdoses that would not have killed healthy weight individuals. Although starvation almost inevitably results in depression, we cannot conclude that all these 'suicides' were intended as such. Likewise, the effects of substance abuse are greatly amplified at low weight. The majority of deaths occur in winter months: hypothermia, infections (including tuberculosis) and organ failure account for many more fatalities. The starved heart is especially vulnerable when overexercised.

What is anorexia nervosa?

The core feature of AN is deliberate weight loss, with fear of weight gain, and a problem of body image which translates all the patient's distress into a perception that their body is too fat. To meet

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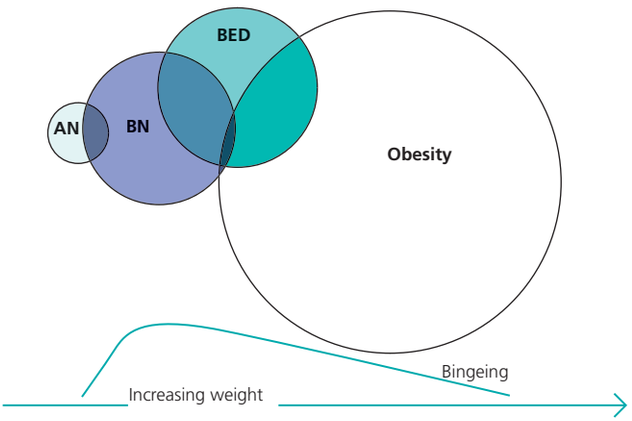

Figure 1.1 Sufferers from anorexia nervosa (AN) make up only a small minority of patients with eating disorders. There is some diagnostic overlap with bulimia nervosa (BN) in that about 50% 'graduate' to binge-purge disorders with gradually rising weight. Normal weight BN involves the most extreme binges because of the purge behaviours which result in 'binge-priming'. When purging does not occur, in binge eating disorder (BED), binges tend to be smaller but weight is often higher and may be in the overweight or obese range. So-called 'simple obesity' occurs when overeating is more general rather than characterized by discrete 'binges', and body image concern is more likely to be a secondary result rather than the root cause of the overeating.

Box 1.2 **DSM-IV criteria for anorexia nervosa**

A Refusal to maintain body weight at or above a minimally normal weight for age and height (e.g. weight loss leading to maintenance of body weight less than 85% of that expected or failure to make expected weight gain during period of growth, leading to body weight less than 85% of that expected).
B Intense fear of gaining weight or becoming fat, even though underweight.
C Disturbance in the way in which one's body weight or shape is experienced, undue influence of body weight or shape on self-evaluation, or denial of the seriousness of the current low body weight.
D In postmenarchal females, amenorrhoea, i.e. the absence of at least three consecutive menstrual cycles.

Box 1.3 **DSM-IV criteria for bulimia nervosa**

A Recurrent episodes of binge-eating, characterized by the following:
- eating in a discrete period of time (e.g. a 2-hour period) an amount of food that is definitely larger than most people would eat during a similar period of time and similar circumstances.
- a sense of lack of control during the episode.

B Recurrent inappropriate compensatory behaviour in order to prevent weight gain, such as self-induced vomiting, misuse of laxatives, diuretics, other medications or enemas.
C The binge-eating and compensatory behaviours occur on average at least twice a week for 3 months.
D Self-evaluation is unduly influenced by body weight and shape.
E The disturbance does not occur exclusively during episodes of anorexia nervosa.

Box 1.4 **Eating disorders in ethnic and cultural minorities**

- Wilful starvation may not be associated with an overvaluation of weight and shape even in Westernized families.
- For some patients—particularly devout young Muslim girls—an association with religion may be apparent, with starvation-induced obsessionality dictating many extra prayer rituals, and with fasting carrying religious rather than 'slimming' overtones.
- Community religious advisors can help discriminate between culturally appropriate dietary restriction and obsessionality.
- People of West Indian and African origins tend to be less vulnerable culturally to eating disorders—they are better able to relish a voluptuous figure, and also carry distressing associations of thinness with emaciation and acquired immunodeficiency syndrome (AIDS)—for such people a thin body may be heavily stigmatized.
- The Curacao study found that even in 'fat-admiring' cultures there is a small, core prevalence of anorexia nervosa. However, more culturally sensitive bulimic disorders may occur far less.

diagnostic criteria, at least 15% of minimum normal weight must have been lost. For adults, this means body mass index (BMI) is below 17.5. Menstruation is absent (though women who take the contraceptive pill have withdrawal bleeds). In males low testosterone causes atrophied genitalia and absence of morning erections.

Some people with AN maintain low weight by starvation alone, or starvation plus exercising—this is 'restrictive' AN. In the more dangerous 'binge-purge' subtype, the sufferer induces vomiting or takes laxatives, diuretics or 'slimming pills' in an attempt to get rid of calories. 'Binges' are usually much smaller than in BN.

What is bulimia nervosa?

Bulimia nervosa is characterized by dietary restriction, followed by breakthrough 'binges' then purging behaviours. This sets up a vicious circle in which binges become larger—often involving thousands of calories in a single binge—and normal social life is disrupted. Binges are not simply large snacks, but a qualitatively different experience in which control is lost and foods normally avoided are guiltily consumed. Binge-purge episodes become a learned response to all stress.

By definition, people with BN have a BMI in the normal range (or above).

What is binge eating disorder?

Binge eating disorder was formerly known as 'non-purging bulimia'. Binges occur without compensatory behaviours such as purging, fasting or exercise. Patients are more likely to be overweight or obese and are torn between the desire to restrain their eating to lose weight and the opposing wish to stabilize their eating habits and thus their lives.

How often is a general practitioner likely to encounter an eating disorder?

The average list is likely to include two or three patients with serious AN, 15–20 with chronic BN, and many more with BED. Figures

are higher in student health centres and practices serving younger people.

Why make a diagnosis?

Making a positive diagnosis of an eating disorder saves fruitless investigation and treatment. Anorexia nervosa is the commonest cause of significant weight loss in adolescents. It is important not to overlook diabetes, thyrotoxicosis, cystic fibrosis or other causes of weight loss, but in practice young people often undergo extensive investigations while their eating disorder is neglected.

The distinction between AN and BN is particularly important. Standard treatments for BN are ineffective against low weight binge-purge disorders, and physical danger is high. Purging behaviours at low weight increase mortality greatly, particularly if alcohol or other substance abuse is involved. On the other hand, normal weight BN, though distressing and damaging, is associated with little increase in mortality, and has a better prognosis when managed with evidence-based treatments.

Picking up eating disorders—a climate of awareness

Patients with AN may be 'brought' to the doctor by worried parents, and do better with early treatment. Bulimia nervosa and BED are more secret, with an average of 6 years from onset to presentation. In adults, longer duration of BN is associated with better prognosis once treatment starts, but there is growing evidence that early diagnosis of BN, in adolescence, provides a window of opportunity for interrupting the vicious circle before it becomes chronic. There is concern that 'binge-priming' behaviours in the young, such as dieting, purging and other weight-losing behaviours may not only predispose to later BN, but also to substance abuse of various sorts.

The key to recognizing secret eating disorders—like alcohol problems—is to make a habit of anticipating the possibility. It is a good habit to routinely ask young female patients about their eating habits. The SCOFF questionnaire (Box 1.5) is a validated brief instrument to screen for eating disorders, similar in concept to the CAGE questionnaire for alcohol problems.

Box 1.5 **SCOFF questionnaire (Morgan *et al*. 1999)**

- Do you make yourself **S**ick because you feel uncomfortably full?
- Do you worry you have lost **C**ontrol over how much you eat?
- Have you recently lost more than **O**ne stone (6 kg) in weight over a 3-month period?
- Do you believe yourself to be **F**at when others say you are thin?
- Would you say that **F**ood dominates your life?

Women complaining of menstrual irregularities or fertility problems should be screened for eating disorders. Unexplained seizures, funny turns, and chronic fatigue should also prompt the consideration. Sometimes gastrointestinal complaints are both the consequence of and the 'cover' for eating disorders. More 'psychological' presentations include depression, anxiety, obsessional symptoms and problems with relationships or at school/work. Bulimia nervosa is often diagnosed by dentists (vomiting affects tooth enamel) and occasionally by police, if binges lead to shoplifting.

Male sufferers are particularly unlikely to be diagnosed and helped, so that while females are clearly at higher risk, any male patient with unexplained weight loss should be asked about dietary and exercise habits.

Making a diagnosis, not an accusation

Eating disorders may be secret, shame-ridden and even dangerous, but they are misfortunes not crimes. It is important to ask sympathetic, matter-of-fact questions, not to sound accusing. Treatment is then more likely to be accepted as help, rather than resisted as punishment.

Forging and keeping a helpful relationship with eating disorder patients

Eating disorders begin as solutions to difficulties. In chronic cases, AN becomes an identity. Even when patients realize their 'solution' causes problems, they remain ambivalent. Attempts to 'frighten' patients out of the disorder may only increase their habitual anxiety-reducing strategies—starvation and binge-purging! Attempts to bulldoze resistance find the patient staunchly defending their eating disorder.

Those who explore ambivalence sensitively, seeking to understand both pros and cons of the eating disorder, are more likely to find themselves on the side of the patient *against* the disorder. Patients find it less daunting to give up their eating disorder if they can learn alternative coping skills.

When AN acutely threatens life we are obliged to take action, but when patients are not in extremis, the priority is to maintain useful contact, and keep the door open for them to accept as much help as possible. Medical monitoring, and a listening ear, keep hope—and patients—alive. Recent studies show that recovery is still possible 20 years after the onset of AN.

Essentials of assessment

It is essential to measure and weigh patients, to calculate BMI (Box 1.6). Even specialists cannot estimate this accurately by eye. Body mass index distinguishes AN from other eating disorders, and provides a baseline for monitoring trends in weight change. For children and young teenagers, BMI is plotted on centile charts against age.

Box 1.6 **Equation for Quatelet's body mass index (BMI)**

$$\text{BMI} = \frac{\text{weight in kilograms}}{(\text{height in metres})^2}$$

If there is weight loss, ask when this started, and what was happening then? Document the patient's highest and lowest weights, preferred weight, and the range s/he would accept. Get an idea of current daily food intake, and patterns of purging and exercise, alcohol, drugs and medication. For patients with a BMI below 14 or a precipitous decline in weight (>1 kg/week), mortality is greatly

increased by purging and by comorbid substance abuse. Such patients should be urgently discussed with specialists. Some need medical admission, using a section of the Mental Health Act if necessary to save life.

Particular danger signs in emaciated patients are weakness (unable to climb stairs or to rise from a squat), chest pain and cognitive slowing. Admission for rest, warmth, rehydration and medical monitoring can save life, particularly when it is cold—most deaths occur in winter. However, medical wards often struggle without support from eating disorders specialists. General psychiatric wards may be the most dangerous places of all, although suicidal anorexic patients may need to be managed here. There should be a low threshold of suspicion for the investigation and management of overdoses. These prove fatal more readily in emaciated people.

Responsible investigation

When a patient is in extremis, outpatient investigations waste time and expose vulnerable individuals to cold, infection and unnecessary exertion. In safer circumstances blood tests maintain contact with patients and demonstrate that your concern extends beyond the number on the scales. Biochemistry, with glucose and thyroid levels, usefully excludes some differential diagnoses. Glucose is low in AN (unless there is coexistent poorly controlled diabetes). The thyroid may be underactive in AN, and it is unwise to endanger the heart by prescribing thyroxine. Electrolytes may show low urea (reflecting protein intake), and low potassium (vomiting). Liver function tests may suggest comorbid drug or alcohol problems, though extreme starvation alone causes liver damage.

Anorexia nervosa usually causes anaemia, and if white count is *not* low infection is likely. Raised mean corpuscular volume (MCV) suggests alcohol problems.

Electrocardiograms (ECGs) provide immediate, sensitive reflexions of electrolyte and cardiac status. Chest X-rays can reveal infections as well as rib fractures. After a year or more at low weight a dual energy X-ray absorptiometry (DEXA) bone scan provides a useful perspective on the risk of osteoporosis.

Remember pregnancy tests and contraceptive advice. Even at unhealthily low weight, women may become pregnant, and vomiting makes oral contraception unreliable.

Always assess mood—the risk of suicide is raised in people with eating disorders. Self-rated questionnaires can be useful tools for tracking changes in mood and eating disordered attitudes, and help patients to collaborate in evaluating their symptoms (see Further resources, below). Consideration of psychological state is a helpful way to find common ground with patients who reject physical concerns.

Further reading

American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders*, 4th edn. American Psychiatric Association, Washington, D.C., 1994.

Birmingham CL & Beumont PJV, eds. *Medical Management of Eating Disorders: A Practical Handbook for Healthcare Professionals*. Cambridge University Press, Cambridge, 2004.

Fairburn, C. *Overcoming Binge Eating*. Guilford Press, New York, 1995. ***(A very readable classic of self-help whose introductory first half provides an essential background to the evidence base for BN, even though it is now a little out of date.)***

Hoek HW. Incidence, prevalence and mortality of anorexia nervosa and other eating disorders. *Current Opinions in Psychiatry* 2006; **19**: 389–394.

NICE. *Eating Disorders: Core Interventions in the Treatment and Management of Anorexia Nervosa, Bulimia Nervosa and Related Eating Disorders.* NICE Clinical Guideline No 9. National Institute for Clinical Excellence, London, 2004: http://www.nice.org.uk ***(The website is particularly useful in comprising a quick reference version and also a users' and carers' version of the Guideline.)***

Treasure J. *Breaking Free from Anorexia Nervosa: A Survival Guide for Families, Friends and Sufferers.* Psychology Press, Hove, 1997. ***(An accessible text conveying essential information in a readable and therapeutic style—recommended for professionals as much as for patients.)***

Further resources: list of useful questionnaires and rating scales

Eating Disorders Examination—self-report version (EDE-Q)

The gold standard eating disorders questionnaire in the self-report version. This covers a range of anorexic behaviours including eating.

Fairburn CG & Beglin SJ. Assessment of eating disorders: interview or self-report questionnaire? *International Journal of Eating Disorders* 1994; **16**: 363–370.

Fairburn CG & Cooper Z. The eating disorder examination. In: Fairburn CG & Wilson GT, eds. *Binge Eating: Nature, Assessment, and Treatment.* Guilford Press, New York, 1993: 317–360.

The Bulimic Investigatory Test, Edinburgh (BITE)

Henderson M & Freeman CPL. A self-rating scale for bulimia. The BITE. *British Journal of Psychiatry* 1987; **150**: 18–24.

The Beck Depression Inventory (BDI)

Beck AT, Ward C & Mendelson M. An inventory for measuring depression. *Archives of General Psychiatry* 1961; **4**: 561–585.

The second edition (BDI-II) is a more sophisticated version—but beware, most depression rating scales include items on appetite and weight change, which will not reflect mood helpfully in the presence of an eating disorder.