Obesity is a big problem for the United Kingdom with associated deaths which are estimated at as much as 30,000 a year. Nearly three quarters of men and two thirds of women are overweight or obese and it is estimated that, by 2020, ⅓ of adults, ⅓ of girls and ⅕ of boys will be obese.

Obesity and its consequences reduce life expectancy by between three and ten years, depending on the degree by which the individual is overweight.

The fast food industry bears a heavy responsibility for contributing to obesity in the UK and over two billion meals from fast food outlets are consumed every year.

Obesity describes someone with a lot of body fat. It is most commonly classified by use of the the Body Mass Index (BMI) classification. For most adults the BMI is as follows:

- 18.5 - 25 - healthy weight
- 25-30 - overweight
- 30-40 - obese
- 40+ - severely or morbidly obese

To calculate the BMI, it is usual to measure the weight in kilograms and the height in centimetres and the BMI figure is then reported in kg/m² (the weight [kg] divided by the square of the height [m].)

The BMI is simple and useful but it does have shortcomings. The figures used are arbitrary and there is blurring round the edges of each category.

Obesity is the presence of excessive fat tissue acquired as a result of chronic over-nutrition.

However, other physical characteristics can confound the BMI such as being overmuscularised (as for example in people who train continually in the gym) or conversely those who suffer from sarcopenia (lack of body muscle such as occurs in, for example, the elderly).

The significance of obesity is in the range and severity of adverse outcomes for which excessive or abnormal accumulations of fat are responsible.

The fundamental cause of overweight and obesity is the imbalance between the calories consumed and the calories burned through exercise.

Exacerbating causes, apart from fast foods, include high energy drinks, decreased physical activity due to increasingly
sedentary work, greater use of transport and increased urbanisation.

There are some health conditions that may occasionally also contribute to obesity such as hypothyroidism (the presence of an underactive thyroid gland) which results in a slowing of the body's metabolic rate with reduced utilisation of stored carbohydrate and weight gain.

Hypothyroidism is effectively controlled with thyroxine replacement.

The location of the fat is also important. Fat around the abdomen (viscerally located) provides a greater risk than fat located on the buttocks and thighs.

Obesity is associated with a number of diseases and disorders including:

- Diabetes mellitus (type II)
- Heart disease
- Stroke
- Osteoarthritis
- Raised blood pressure
- Raised cholesterol and atherosclerosis
- Gallstones
- Some types of cancer
- Sleep apnoea
- Infertility

In addition low self-esteem associated with appearance and possible incapacity may result in depression.

None of this is in any way surprising. If the body is confronted with an overload of carbohydrate, there is additional demand on the pancreas to produce insulin, increased workload on the heart, increased level of blood cholesterol and the weight-bearing joints have to carry more weight.

It is alarming to consider that one in three children born in America, where obesity is an even greater problem than in the UK, will develop diabetes.

If the obesity epidemic continues unabated in the UK the consequence will be that the health resources required to manage it will outstrip the ability of the Health Service to combat it.

The Management of Obesity is probably the best known mantra in healthcare - eat less and exercise more. Advice will include:

1. Eat a healthy, balanced diet with calorie control.
2. Join a weight loss group such as Weightwatchers or Slimming World. The NHS also provides exercise weight loss programmes.
3. Increase exercise. Anything is good; walking, running, even mowing the lawn if you have one. The target is five hours a week.
4. Try not to overeat. Smaller portions of appropriate foods form an essential component of weight loss.

In today's environment losing weight feels a huge challenge.

We are surrounded by nice restaurants, cheap high calorie foods, seductive advertising and even television programmes

For many the challenge is overwhelming and weight loss sounds better in the concept than in the execution.

Certainly the challenge is considerable and it is necessary to burn 7,500 calories more
than are consumed in order to lose one kilogramme of weight.

Apart from dietary and exercise help, GPs can assist with dietary control by the prescription of appetite suppressant; Orlistat but its use should be monitored to ensure compliance and success.

There is NICE guidance.

Targets to be achieved if the drugs are employed. They involve a 5% reduction in weight over a three month period.

For patients with morbid obesity, with a BMI in excess of 40, bariatric surgery can offer a solution.

The treatment involves banding or stapling part of the stomach to reduce its capacity.

The surgery is not without hazard but the results are often excellent.

However success with surgery is not invariable.

It is an expensive procedure, available surgical centres are few and far between in the UK and few CCGs are prepared to fund the procedure.

An approval process is usually involved. It is likely that, over time when resources permit, greater capacity will be made available because the surgery does reduce morbidity with the disorder which, in the long term, is of much greater cost.

The obesity epidemic will have to be addressed in order to avoid the potentially huge increases in other diseases over the next decades and if the NHS is to survive.

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