

How to... Tackle obesity

Sheila Bull considers how the rising prevalence of obesity in the UK population may impact on radiographers.



Introduction

Contrary to popular opinion, 'obesity' is not just a particular problem of the American people: the facts confirm that this public health issue affects the populations of countries where there is access to obesigenic lifestyle and environment. The World Health Organisation (WHO) claims that, worldwide, more than a billion people are overweight and at least 300 million are obese. Obesity is considered to be both a major cause of chronic ill health and a disease in its own right¹.

The prevalence of obesity is increasing in the UK population. The Health Survey for England (HSE) 2006 states that there was a marked increase in the proportion of adults who were obese from 1993 to 2006 – from 13.2% to 23.7% of men, and from 16.4% to 24.2% of women². Figures 1 and 2 are based on data gathered for the HSE three years previously (in 2003) and make reference to body mass index (BMI – see below for explanation).

Other data that provides graphic illustration of people becoming fatter refer to the UK's 'expanding waistlines'. The mean waist circumference for women has increased from 81.7cm to 86.4cm and for men, from 93.2 cm to 96.8cm (1993 to 2006)³. Generally, then, there is an upward trend, with almost one third of the population likely to be obese by 2010⁴.

Radiographers are already familiar with caring for

overweight patients, but, as prevalence and severity of obesity and frequency of associated surgical interventions increase, they may be required to modify certain aspects of patient management.

There are several issues that will need to be considered, including the effects of obesity related to the limitations of imaging modalities and diagnostic image quality. This article gives an outline overview of equally important issues, such as aspects of general patient care, moving and handling safety, and equipment size and loading specifications.

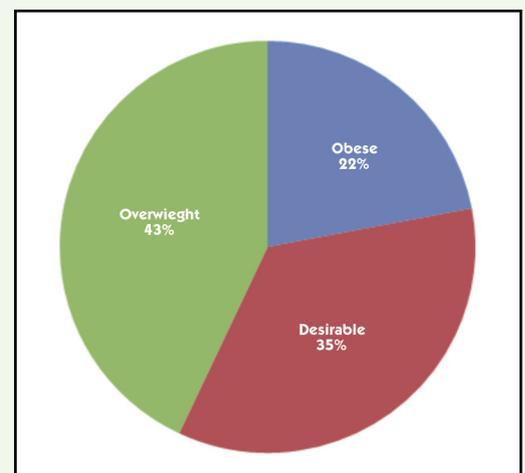


Figure 1: Body mass index status for men (aged 16+).

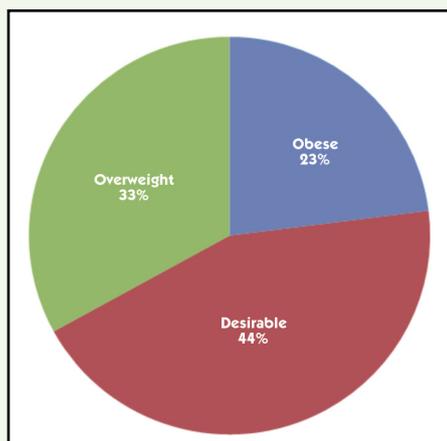


Figure 2: Body mass index status for women (aged 16+).

Terminology

◆ **Body mass index (BMI):** this is a widely recognised way to define obesity. BMI takes into account both body height and weight, ie, $BMI = \text{body weight in kilograms} / \text{square of body height in metres} (kg/m^2)$.

Weight classification	BMI (kg/m^2)
Underweight	< 18.5
Normal weight	18.5-24.9
Overweight	25-29.9
Obese	30-39.9
Morbidly obese	> 40

◆ **Bariatrics:** this term is given to a branch of medicine that deals with causes, prevention and treatment of obesity, derived from the Greek root 'baros', meaning weight. In some areas (such as the United States), it may tend to specifically refer to obesity surgery. In the UK, there is evidence of a surge in demand for this obesity surgery and some Trusts are setting up bariatric surgical units to cope with this.

NHS Trusts may define bariatric patients as 'extremely heavy' and, for the purposes of moving and handling, this definition is applied to individuals who weigh more than 25 stone (159kg). Most standard moving and handling equipment tends to have this weight capacity.

◆ **Obesigenic:** it is becoming commonplace to refer to an 'obesigenic environment', which means that the environment contains strong features that simultaneously promote eating and sedentariness. Aspects of this environment include few limitations on consumption, access to fast food, and relaxation or weakening of cultural constraint of the pattern of eating⁵.

General patient experience

◆ **Discrimination, attitudes, dignity:** in a culture that worships thinness, obese people experience discrimination in schools, the workplace and healthcare settings⁶. According to Rand and Macgregor, numerous studies have documented the stigmatisation of obese persons in most areas of social functioning, which can promote psychological distress and increase the risk of developing a psychological disorder. The obese often consider their condition as a greater handicap than deafness, dyslexia or blindness⁷.

A survey of severely obese patients by Puhl and Brownell found that nearly 80% reported disrespectful treatment from the medical community⁸. In immediate terms of healthcare for the obese person, there may be a discriminatory bias that creates a barrier to clinical care. This means that, because of negative attitudes towards them, either they may be reluctant to access care in the first place or they may not receive the same standard of care that 'normal' weight individuals may enjoy. Obese people may be afraid of being embarrassed, chided or humiliated by healthcare workers or their surroundings.

◆ **The ethics of 'fat':** Professor Blundell, in his Memorandum to Parliament⁵, asks (in the context) of what is deemed evil in the world, how reprehensible is it to be obese? Certainly, overweight and obese individuals are often blamed for causing their own condition and, by extension, are seen to be putting more strain on limited healthcare resources. However, causes of obesity are quite complex and Blundell states that eating behaviour in principle is under voluntary control, but in practice is heavily constrained by environment.

Nevertheless, the fact that obesity can be perceived as being an immoral condition may be one of the reasons for discrimination within the medical environment. Roe and Dawson suggest that to enhance professionalism, practitioners should be alert to obesity bias amongst staff. This includes negative attitudes, behaviours and nonverbal prejudices about patients' size⁹.

◆ **Simple but significant changes to healthcare environment:** in America, the National Association to Advance Fat Acceptance (NAAFA - which does not shy from using the term 'fat') has published a brochure¹⁰ intended to help remind healthcare providers of the special needs of overweight and obese patients. They also remind us that the healthcare environment



Figure 3: Extra large examination gowns could save a patient's embarrassment. Photo courtesy of Amplestuff, USA.

may need to be adapted to suit larger people.

For example, provision of sturdy armless chairs in the waiting room, large adult blood pressure cuffs, extra long tourniquets, and extra large examination gowns (figure 3). Regular size gowns may break or tear or simply not fit and this causes embarrassment for the patient. This can easily be remedied by keeping a stock of these items.

More detailed information about NHS healthcare environmental adaptations should be available within Trust published policies focusing on care of bariatric patients.

Loading specifications and dimensions

The cost to the taxpayer of NHS purchases of bariatric wheelchairs, beds and patient moving apparatus is a topical subject. In radiology departments, attention is now focused on the need to have increased imaging equipment weight loading specifications and scanner bore diameter to accommodate larger patients. Patients who exceed the weight limit of a table as defined by the manufacturer can potentially damage the table or its motor mechanics. These are insured by manufacturers up to a certain weight and the cost of damage will not be



Figure 4: The MAGNETOM Espree overcomes the problem of imaging larger patients. Photo courtesy of Siemens.

covered if a heavier patient is placed on the table for imaging.

Uppot and Sheenan¹¹ discuss how Siemens has dealt with the problem of being unable to scan patients whose body girth exceeded a particular bore diameter. The MAGNETOM Espree™ (figure 4) has a completely new bore design – a 70cm cylindrical design offering more useable vertical distance than traditional open MR systems – and, in addition, offers a 550lb (250kg/40 stone) patient weight limit.

Another example of helpful adaptation both for patient and operator, is Xograph's DR system, Adora. This ergonomic DR equipment has a table capacity of 250kg and there is an optional motorised patient hoist to allow the radiographer or assistant to effortlessly raise infirm or overweight patients from beds, trolleys and wheelchairs onto Adora's table¹².

Health and safety in moving and handling

◆ Legislation and NHS Trust policies:

NHS Trust employers have a responsibility to implement the Health and Safety at Work Act 1974 and must provide safe systems of work. Adequate equipment to facilitate patient care must be provided along with staff

training and support in using any specialised equipment¹³.

The increase in prevalence and severity of obesity in patients raises issues for the design of (general) equipment as to whether it is sufficient in width and has the capability to achieve improved posture and safe working capacity. Thursby found that many organisations do not have access to appropriate equipment for obese patients., one reason being that, at the point of delivery, equipment provision is often reliant on specialist medical providers to ensure availability and training. This results in distress not only for the people who have to deliver the care but also for the patient and relatives¹⁴.

◆ Risk assessment and management:

a key element of health and safety is risk management. According to a Health and Safety Executive report by Hignett et al, individual (bariatric) patient handling risk assessment should be completed on admission in order to ensure that all aspects of facilitating care reduce the risk of injury as far as reasonably practicable¹⁵.

A risk assessment is simply a careful examination of what, in your work, could cause harm to people, so that you can weigh up whether you have taken enough

precautions or should do more to prevent harm¹⁶. Some examples of factors influencing hazard and risk in manual handling of bariatric patients are:

- ❖ Patient factors – eg, weight, shape, comfort
- ❖ Building and vehicle space and design – eg, space, clearance, SWL? of floors
- ❖ Equipment and furniture – eg, availability, suitability, weight capacity, effort to move
- ❖ Communication – eg, between departments, time delays
- ❖ Organisational and staff issues – eg, policies, culture, training, competence. Hignett et al also reported that 40% of Trusts did not have a bariatrics policy (which embraces more than moving and handling issues). Extracted examples from a Trust policy¹⁷ for care of bariatric patients includes:
- ❖ Assessment of departments by managers to ascertain whether adequate provision has been made to meet the handling needs of the bariatric patient.
- ❖ Elective admissions – notice and information of handling needs to be obtained from the referrer.
- ❖ Emergency admissions – on completion of a risk assessment, specialist equipment must be made available where a need is identified.
- ❖ Arrangements for interdepartmental transfers and discharge.

- ❖ Resuscitation of a bariatric patient (which presents special challenges).
- ❖ Wheelchairs with special bariatric features, ie, able to take patients of up to 50 stone (318kg), also the need for extra large doorways and turning circles.
- ❖ Personal care, including hygiene and maintaining skin integrity.
- ❖ A fallen patient, eg, staff must use a hoist if the patient cannot get off the floor independently.
- ❖ Staffing levels – sufficient numbers of staff must be provided to assist with manual handling tasks.

Conclusion

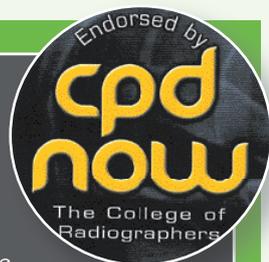
It is evident from information related to current trends for obesity that radiographers need to be prepared to make appropriate adaptations for enhancing safety in moving and handling and for promoting other aspects of professional care of significantly overweight patients.

References for this article are at: www.sor.org/members/pubarchive/pub_search.htm

About the Author

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How to use this article for CPD



This article considers obesity from two perspectives. First, it looks at the increasing prevalence of this condition and considers some of the reasons for this and attitudes towards the obese. Secondly, it considers the practicalities of imaging obese patients and the adaptations and special equipment that might be required. You can consider either or both of these perspectives with regards to your CPD. Activities might include:

- ◆ Consider the data that Sheila Bull provides in the article regarding the prevalence of obesity. You might reflect on your attitudes towards obesity, either personally or in discussion with a colleague or group.
- ◆ Review the equipment available in your clinical area. Are there limitations that might compromise your ability to image or treat obese patients? Are there any health and safety issues to consider? You might enlist the support of your health and safety representative.
- ◆ Have you experienced difficulties when imaging or treating bariatric patients? Were these related to associated processes such as moving and handling, or technical issues such as the weight or size restrictions on the scanner or the poor image quality due to large amounts of secondary radiation or other factors? How might these difficulties be overcome or their impact reduced?

Sean Kelly, CPD Officer

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