



Editorial

Should patients be denied access to total joint replacement surgery because they are obese?



Since 1990 the World Health Organisation (WHO) has raised concerns about increasing rates of obesity in both children and adults. Once considered a problem only in high income countries, overweight and obesity are now dramatically on the rise in low- and middle-income countries, particularly in urban settings. The WHO defines individuals who have a BMI (Body Mass Index) between 25 and 29.9 as overweight and a BMI of 30 or over as obese. Obesity is subdivided into 3 classes: class 1 BMI 30–34.9, class 2 BMI 35–39.9 and class 3 BMI of 40 or over (WHO 2019).

Overweight and obesity are major risk factors for several chronic diseases including diabetes, cardiovascular disease and cancer. In the orthopaedic setting, the impact of overweight and obesity on development of osteoarthritis (OA) in load bearing joints is well documented. Increasing numbers of people with severe OA of the knee joint requiring total knee replacement (TKR) is a global challenge in the developed world, with TKR in-patient costs exceeding \$9 billion in 2008 in the USA alone - the highest aggregate cost among the ten procedures for which demand is growing fastest. Between, 2005–2030 the demand for primary TKR in the USA is projected to grow by 673% or 3.48 million procedures annually (Tomek et al., 2012).

A Canadian study carried out by Bourne et al. (2007) reported that obesity was a major factor contributing to the development of OA of the hip and knee and the related requirement for total hip replacement (THR) and TKR. The likelihood of requiring a TKR is 8 times higher for obese people than non-obese people; with the likelihood increasing to 18.73 times higher for people with a BMI of 35–39.9. The average BMI of patients undergoing primary TKR in the UK in 2017 was 30.92 (obese) and 67% of patients who underwent TKR in that year were either overweight or obese (NJR, 2018). This is not a unique situation for England; the New Zealand NJR (2017) reported that the average BMI for patients undergoing primary hip replacement in 2010–2016 was 28.92 (overweight) in a range of 14–64.3 and the Swedish knee arthroplasty register (2017) reported that patients undergoing primary TKR in 2017 had a BMI of 35 + ranging from 0 to 40% across the centres.

The Royal College of Surgeons (RCS, 2016) reported that over a third of clinical commissioning groups (CCGs) in England are restricting access to routine surgery such as hip and knee replacements until patients stop smoking and/or lose weight. The report additionally highlights that 22% of commissioning bodies are placing mandatory weight thresholds on referral for hip and knee replacement surgery. The RCS said that policies to deny or delay access to surgery for smokers and overweight patients contravened national clinical guidance. In practice, these restrictions for referral for THR or TKR vary nationally in the UK and can range from a BMI cut-off from 35 to 40.

This raises several issues for us to consider, including whether there is an evidence base to support the restriction of obese and overweight

patients undergoing total joint replacements (TJR) and the ethical implications of what appears to be a back-door approach to rationing health care services.

The evidence base regarding whether patient outcomes following TJR are similar between normal weight patients and obese patients does not appear to justify denial of surgery to obese patients. Several studies report equivocal outcomes in terms of relief of pain, improved function and revision rates for obese patients in the short, medium and longer term following TJR (Amin et al., 2006; Benjamin et al., 2001; Bordini et al., 2009). Collins et al. (2017) reported that obese patients had accelerated improvement in their functional outcome scores compared to non-obese patients in the first 3 months following surgery. A study by Collins et al. (2012), carried out in Scotland, reported no difference in overall complication rates or implant survival rates up to 9 years following TKR between obese and non-obese patients and concluded that, given the sustained relief of symptoms for these patients, there was no justification to deny obese patients access to TKR surgery.

It could be argued that it is unethical to deny access to THR/TKR based on BMI when outcomes appear equivocal and, in fact, the relief of pain and restoration of function and improvement in quality of life are well documented for these procedures. Also, if patients are required to lose substantial amounts of weight to meet commissioner's weight restrictions, how feasible is this when their mobility is severely restricted by pain because of severe OA of their hip or knee? Patients often experience low self-esteem, social isolation and loss of income due to living with chronic and severe OA of their joints which can lead to depression. This can often lead to comfort eating and this, combined with reduced mobility, leads to further weight gain.

There is little research to support the best approach to help obese patients lose weight and maintain weight loss prior to and following TJR. A study by Howarth et al. (2010) of patients with a BMI of 30 or over with severe OA of their knee/s reported that 58% of the respondents had never received help or advice from a health care professional regarding losing weight. Helping patients to manage obesity is a complex process that involves much more than advising patients to eat less and exercise more. A survey of consultant members of the British Association for Surgery of the Knee (Hill et al., 2018) concluded there was considerable variation in the opinions and practices of surgeons on the management of symptomatic knee OA in individuals with obesity. It is important that a consistent, evidence based and multi-disciplinary approach is developed to support obese patients with severe OA of their knee/hip to lose weight and maintain weight loss prior to and undergoing TJR. Further research into this area is needed and I am conducting a survey to find out more about the knowledge, skills, attitudes and experiences of nurses supporting obese patients prior to and following TJR. If you would like to participate please contact me at r.jester@wlv.ac.uk for more information.

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