

Achieving equity in bariatric and metabolic surgery: why do we need new guidelines?

Obesity is not a modern-day phenomena. It was 1054 years ago when a Jewish physician Hasday Ibn Shaprut (915–975) implemented the first anti-obesity diet in the world.

King D Sancho I of Leon (935–966), known by both Christians and Moors by the nickname of ‘the Fat’ was so obese that he could not walk, ride a horse, or carry a sword. This was hardly surprising, given that the king’s weight was well over 240 kg.¹ This led him to lose his throne. He was taken by his grandmother to the famous physician Hasday in Cordoba to have his lips sewn shut and put in captivity. His treatment included a liquid diet of Hebrew herbs which caused continuous diarrhoea, daily infusions containing salt water, orange-flower water, water boiled with vegetables, and fruit, daily long walks during which he was pulled with ropes by slaves, while leaning on an assistant and endless steam baths after exercise. As Sancho lost weight, Hasday ordered prolonged body massages to try and recover the firmness of the skin. After 40 long days on this strict and noxious diet, Sancho’s weight reduced to 120 kg, and he was able to walk distances longer than 5 km without being pulled by ropes or any other assistance. After achieving the desired effect of 50% weight loss, he was able to ride a horse, lift his sword and ready to recover his throne. Indeed, he did so in 960.¹

Obesity has become a disease so prevalent that it has been called the other pandemic. According to World Health Organization, the worldwide prevalence of obesity nearly tripled between 1975 and 2016 with the shift from being a problem in rich countries, to one that spans all income levels.^{1,2}

Obesity—defined as having a high body-mass index—is a risk factor for several of the world’s leading causes of death, including heart disease, stroke, diabetes, and various types of cancer.² Obesity does not directly cause of any of these health impacts but can increase their likelihood of occurring. According to the Global Burden of Disease study 4.7 million people died prematurely in 2017 because of obesity and has become one of the leading risk factors for death globally.³

According to the Australian Institute of Health and Welfare (2023) obesity is the second leading risk factor for ill-health and premature mortality. Based on the Australian Bureau of Statistics 2018, 2 in 3 (67%) are living with overweight or obesity.⁴ This is approximately 12.5 million adults. 36% are living with overweight but not obesity. 31% are living with obesity.

12% are living with severe obesity, which is defined in this report as having a BMI of 35 or more.

Non-surgical treatments have not provided effective and durable weight loss. On the other hand, surgical methods have been known to achieve substantial and durable weight loss for at least 60 years. However, many bariatric surgeons today still practice with guidelines from 1991. How can this be? I do not believe there is any other medical or surgical discipline that are practicing on guidelines published 32 years ago. To deny patients with obesity the benefits of modern medicine or surgical practice can be considered not ethical nor equitable.

Surgery for the treatment of obesity began in 1954 with the introduction of the jejunoileal bypass (JIB).⁵ Good weight loss was achieved with impressive health benefits but it was the severe malabsorptive side-effects that led to its abandonment in the 1970’s in favour of the stomach stapling procedures.

The Roux-en-Y gastric bypass (RYGB) operation was introduced by Edward Mason in 1960. Over the subsequent 40 years, various modifications of the gastric bypass were performed. This procedure has been favoured over time as it not only provided a hybrid between the malabsorptive approach of JIB and later, the more restrictive operations but resulted in significant metabolic improvement for the control of type 2 diabetes.⁶

It was in 1991, when the US National Institutes of Health (NIH) published the guidelines for gastrointestinal surgery for weight loss.⁷ For these guidelines, an assembly of 14 health experts (only one member was a bariatric surgeon) came together to review the published literature. The published data on surgical procedures for the treatment of obesity was scant and the procedures performed during that era were the open gastric bypass and

NIH Consensus statement 1991

Patients must meet the following criteria for consideration for bariatric surgery:

- BMI >40 kg/m² or BMI >35 kg/m² with an associated medical comorbidity worsened by obesity
- Failed dietary therapy
- Psychiatrically stable without alcohol dependence or illegal drug use
- Knowledgeable about the operation and its sequelae
- Motivated individual
- Medical problems not precluding probable survival from surgery

the open vertical-banded gastroplasty. However, this third NIH consensus conference in 1991 with its subsequent statements was a seminal event in the development and acceptance of bariatric surgery as an appropriate treatment for severe obesity and its related diseases. The 1991 guidelines were considered state of the art for its time.

The practice of bariatric surgery has dramatically improved since 1991 with technological advances, laparoscopic surgery favoured over open procedures, wider and improved training of surgeons, safer practices, newer procedures that are metabolic rather than just weight loss surgery and the development of endoscopic and robotic surgery.

Like for any specialty in medicine, updated guidelines that reflect on the ever-increasing advances are always required. Unfortunately, not so for bariatric surgery. For many years after 1991, the NIH offered no changes to the guidelines, leaving them as they were at that time. The NIH did acknowledge that in 1998 about the 1991 guidelines: 'This statement is more than five years old and is provided solely for historical purposes. Due to the cumulative nature of medical research, new knowledge has inevitably accumulated in this subject area in the time since the statement was initially prepared. Thus, some of the material is likely to be out of date, and at worst, simply wrong'. In 1998 the NIH assembled another panel of experts in obesity and health policy to examine the emerging criteria for the construction of new evidence-based guidelines. The panellists (no surgeons included) did not consider the laparoscopic approach, made no mention of national accreditation, did not consider the clinical evidence based on many emerging randomized control trials and found no basis to alter the conclusions of the 1991 consensus panel. Finally in 2007, the NIH formally retired the Consensus Development Program thus concluding the organization of consensus conferences of any type. Despite being influential international body, the NIH made the decision that it will no longer be involved in any form of consensus program and hence will not be involved in any form in the decision-making process of Gastrointestinal Surgery for Severe Obesity.

Hence the 1991 guidelines which is essentially 32-year-old guidelines for performing complex surgery on complicated patients with obesity remained. Much has changed in 3 decades. Bariatric surgery has become synonymous with 'metabolic surgery' or 'diabetes surgery'. Metabolic and bariatric surgery (MBS) has been shown to achieve superior glycaemic control and reduction of cardiovascular risk factors in obese patients with Type 2 Diabetes compared with various medical/lifestyle interventions.

The changes in obesity management over the last 3 decades can be summarized as follows:

- (1) Marked increase in the incidence of obesity
- (2) Introduction of new procedures (laparoscopic gastric banding, duodenal switch, sleeve gastrectomy, one anastomosis gastric bypass, single anastomosis duodeno-ileal bypass)
- (3) Improved safety of the procedures
- (4) Adoption of laparoscopic minimally invasive surgery
- (5) Development of advanced instrumentation in laparoscopic, endoscopic & robotics
- (6) Widely available surgeon training
- (7) Understanding physiological mechanisms of MBS

- (8) Improved patient care with enhanced recovery after bariatric surgery (ERABS)
- (9) Increased experience with Multi-Disciplinary Team management
- (10) Better understanding of the comorbid conditions of obesity
- (11) Documentation that delaying surgery diminishes its effectiveness
- (12) Demonstration that MBS improves quality of life
- (13) Data that demonstrates that MBS is cost effective
- (14) 32 years more experience with MBS

The introduction of laparoscopic minimally invasive surgery has been a global 'game-changer' for MBS. Understanding the physiological mechanisms behind MBS, the improved patient care, and the introduction of new procedures like sleeve gastrectomy, one anastomosis procedures, endoscopic procedures, and robotics have dramatically improved safety and efficacy across the board. To date we have science, we have evidence-based data.

Finally, it took the combined effort of 2 large organizations: the International Federation for the Surgery of Obesity & Metabolic Disorders (IFSO) with 74 national member societies and more than 10 000 members and American Society for Metabolic and Bariatric Surgery (ASMBS) the largest national society for MBS with more than 4000 members to come together to rewrite the guidelines in 2022. It was an unprecedented effort that the leadership of the 2 organizations decided to work together for these new guidelines. To achieve this a writing group was created from both organizations to cover topics in the field of MBS. Each topic was the result of researching in peer reviewed high-impact journals. The manuscript once completed were reviewed by the writing groups and then by the Scientific Committee of IFSO and the Clinical Issues Committee of ASMBS. Finally, they were presented to both ASMBS and IFSO leadership for board approval. Following approval from both boards, the manuscripts and the executive summary was co-published in their societal journals (Obesity Surgery—IFSO, Surgery for Obesity and Related Disorders—ASMBS).^{8,9}

The publication of the 2022 American Society for Metabolic and Bariatric Surgery (ASMBS) and International Federation for the Surgery of Obesity and Metabolic Disorders (IFSO): indications for metabolic and bariatric surgery is only the beginning for achieving equity for our patients suffering from the disease obesity. These guidelines need to be publicized to the wider surgical community, medical colleagues, stakeholders in public and private health, and to metabolic and bariatric programs worldwide.

The 2022 ASMBS-IFSO guidelines in summary:

- MBS is recommended for individuals with BMI >35 kg/m², regardless of presence, absence, or severity of co-morbidities.
- MBS is recommended in patients with T2D and BMI >30 kg/m².
- MBS should be considered in individuals with BMI of 30–34.9 kg/m² who do not achieve substantial or durable weight loss or co-morbidity improvement using nonsurgical methods.
- Obesity definitions using BMI thresholds do not apply similarly to all populations. Clinical obesity in the Asian population is

recognized in individuals with BMI >25 kg/m². Access to MBS should not be denied solely based on traditional BMI risk zones.

- There is no upper patient-age limit to MBS. Older individuals who could benefit from MBS should be considered for surgery after careful assessment of co-morbidities and frailty.
- Carefully selected individuals considered higher risk for general surgery may benefit from MBS.
- Children and adolescents with BMI >120% of the 95th percentile and a major co-morbidity, or a BMI >140% of the 95th percentile, should be considered for MBS after evaluation by a multidisciplinary team in a specialty center.
- MBS is an effective treatment of clinically severe obesity in patients who need other specialty surgery, such as joint arthroplasty, abdominal wall hernia repair, or organ transplantation.
- Consultation with a multidisciplinary team can help manage the patient's modifiable risk factors with a goal of reducing risk of perioperative complications and improving outcomes. The ultimate decision for surgical readiness should be determined by the surgeon.
- Severe obesity is a chronic disease requiring long-term management after primary MBS. This may include revisional surgery or other adjuvant therapy to achieve desired treatment effect.

Finally, whilst these 2022 guidelines will hopefully provide increased access to many patients suffering from the disease obesity, we as responsible healthcare providers need to establish a mechanism for reviewing and updating the guidelines for MBS on a regular basis so that they remain not outdated like the 1991 guidelines. I believe we owe this to our patients suffering from the disease obesity.

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