

## Obesity: getting past stigma and treating the disease

Obesity is a chronic disease that affects more people in Ireland than any other. While it often occurs in isolation, it is associated with several other chronic diseases such as type 2 diabetes. It is also associated with an increased risk of cardiovascular disease and cancer. The morbidity associated with obesity is so significant that it limits life expectancy and has been put forward as one of the factors explaining the recent disimprovement in life expectancy in the US where more than 35% of the population are living with obesity.<sup>1-3</sup>



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defends against loss of body fat, as the reduced calorie intake is interpreted physiologically as starvation. This is despite the presence of excess adipose tissue. In obesity, the hypothalamus does not recognise that there are in fact energy stores available (in the form of adipose tissue) and so basic physiological mechanisms are activated to defend against weight loss.

The first physiological defence mechanism is hunger. Reduction in food intake physiologically results in increased hunger. Hunger is unconscious, but people on a diet consciously resist their hunger in an effort to lose weight. This can result in some weight loss but living in a constant state of perceived starvation is challenging to maintain and requires constant conscious resistance of

hunger, one of our most primal physiological mechanisms.

The other major physiological adaptation that helps resist weight loss is reduction in energy expenditure. If hunger does not result in calorie ingestion, then the hypothalamus will downregulate the basal metabolic rate and burn fewer calories, which is why people will find that eventually, despite sticking to a diet that initially resulted in weight loss, they hit a weight loss plateau (while still feeling extremely hungry). This occurs because the hypothalamus adjusts energy expenditure downwards to meet the reduced calorie intake. This means that people will continue to burn fewer calories as long as there is a calorie deficit (i.e. as long as they remain on a diet). Presumably, this mechanism evolved as an evolutionary adaptation to prevent weight loss and death in times of famine.

The only way to overcome these mechanisms is to consciously reduce calorie intake to extremely low levels (approximately 600kcal per day). However, even if someone can achieve this, on reintroduction

This article provides an overview of the pathogenesis of the disease of obesity and an outline of available treatments with reference to the phenomenon of obesity stigma, which has been a major barrier to progressing obesity care in the developed world for the last 20 years or more.

Obesity stigma is the term used to refer to discrimination based on weight. We live in a society that feels free to openly discriminate against people based on their weight. Obesity stigma is everywhere. People living with obesity are portrayed or understood as unmotivated ('lazy') and undisciplined ('greedy'). When we understand people living with obesity as unmotivated undisciplined people who do not take responsibility for their own health and wellbeing, it gives us license to blame them for their poor health, to criticise them for their life choices, and even to decline to employ them.<sup>4,5</sup>

Healthcare providers may determine that the reason that someone with obesity is suffering from an ailment such as joint pain is because they are unmotivated to lose weight. This attitude leaves people living with obesity feeling very alone in a world that judges them for their disease. Given the prevalence of obesity-related stigma and discrimination, it is no surprise that obesity is associated with depression, anxiety, reduced social participation, and reduced quality of life.<sup>4,5</sup>

Decades of evidence have shown that for the vast majority of people living with obesity (approximately 80%) diet and exercise-based interventions do not result in long-term weight loss.<sup>6-10</sup> This is not because of moral failing (i.e. laziness) but because of maladapted energy homeostasis which is the pathological basis of obesity.

In the majority of people with obesity, when they go on a diet to lose weight, their physiology





of normal diet (with a calorie intake within recommended limits (e.g. 2000kcal per day)) there will be weight gain as their healthy 2000kcal a day diet will be in excess of what they are expending by the end of their diet (which could be less than 1000kcal per day).<sup>8-10</sup>

Given the above, it should be no surprise that for 80% of people with obesity, diet and exercise alone will not achieve durable weight loss. Of course, this means that as many as 20% of people with obesity will achieve significant durable weight loss with diet and exercise programmes and so a structured diet and exercise programme is a reasonable first line treatment for obesity if the individual has not completed a structured intervention before.

Ideally, a structured diet and exercise programme would be dietitian and exercise physiologist led, with psychologist support, and provided in the public sector. If such a programme is not available, then most commercially available class-based programmes can at least offer advice on calorie reduction and peer support.

Exercise is an important component of any weight loss programme not because it significantly aids weight loss, but because it helps weight maintenance. The preservation of muscle mass and metabolic activity is shown to reduced weight regain after successful weight loss achieved with dietary modification. A minimum of thirty minutes a day is needed for benefit. This exercise does

not have to be gym based. Any additional exercise, such as walking, can be of benefit.

When diet and exercise based programmes are unsuccessful, the addition of medication should be considered as next-line therapy. There are three medical options at present; orlistat, liraglutide (at a dose of 3mg daily rather than the 1.8mg dose used for diabetes), and naltrexone/bupropion. All of these can be prescribed safely in primary care. For prescribing information, please see [www.medicines.ie](http://www.medicines.ie).

Bariatric and metabolic surgery is the most effective intervention in treating obesity and obesity-associated disease. All procedures are performed laparoscopically with a very low rate of complications. In diabetes, surgery has particular benefits, and is a more effective treatment for type 2 diabetes than medical care alone. Surgery improves glycaemic control in the medium-term, but also reduces mortality and maintains control of diabetes in the long-term.<sup>11-13</sup> Therefore, surgery is increasingly used to primarily treat diabetes rather than the associated obesity.

Weight loss after surgery usually reaches a maximum twelve months post-operatively, with a mean ten-year weight reduction of 25%.<sup>11-13</sup> The weight loss associated with surgery is durable in general, although weight regain can occur in a minority of surgical recipients. The weight loss occurs in tandem with significant improvements in multiple health outcomes including a reduction in all-cause mortality.

Weight loss after surgery is a not a result of physical restriction or calorie malabsorption, as is commonly believed. The major mechanism of weight loss after surgery is increased satiety and decreased hunger, which is associated with changes in gastrointestinal hormones such as GLP-1. There is also evidence that surgery increases energy expenditure, despite reduced food intake. Therefore, surgery directly addresses the two major components of the disease of obesity.

Surgery is the only treatment with evidence for long-term weight loss, and reduction in all cause mortality, and therefore should be considered in all people with obesity. While the peri-operative risks are as low as general elective surgery, these procedures are not 'the easy option'. Before proceeding a thorough multidisciplinary assessment is needed to ensure candidates are fully prepared to have an optimal response to surgery.

Obesity affects all aspects of human health resulting in other chronic diseases, disability and a reduction in life expectancy. However, obesity can be successfully treated and so people with obesity need to be recognised and offered treatment. Treatment can save lives, reduce morbidity and improve psychosocial functioning.

Covid has demonstrated how obesity complicates care and adds risk. People living with obesity were more likely to be admitted to ICU and to die when infected with Covid.<sup>14</sup> This led to significant worry among people living with obesity: a group who are living with a chronic disease without being offered treatment. The pandemic brought to light the effect of obesity stigma on obesity care in Ireland. Even when people were at risk of death as a result of Covid, obesity stigma persisted and the old paradigm of blaming people for their obesity persisted.

As a healthcare system, we need to do better for people with obesity, both in terms of our understanding of obesity and in provision of treatment. In 2021, the HSE Model of Care for obesity was launched (<https://www.hse.ie/eng/about/who/cspd/ncps/obesity/model-of-care/>) Hopefully, this will be the start of a new programme of expanded public sector provision of all treatment options for obesity so that we help people living with obesity to overcome this insidious chronic disease.

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## Useful Resources:

<https://www.irspen.ie/malnutrition/understanding-obesity-2/>

<https://asoi.info/public/>

[www.truthaboutweight.ie](http://www.truthaboutweight.ie)  
(a website for people living with obesity)