



# Reducing the burden of obesity

## INTRODUCTION

The Royal Australasian College of Surgeons (RACS) has developed this position paper and accompanying recommendations to address the growing prevalence of obesity and its associated risks to service delivery, surgical outcomes and public health in Australia and New Zealand.

The growing incidence of obesity is one of the most challenging contemporary threats to global public health. In contrast to other major global health issues such as tobacco, obesity is rapidly increasing worldwide. Between 1975 and 2016 the worldwide prevalence of obesity nearly tripled<sup>i</sup>, with middle and high-income countries reported particularly high rates of obesity.<sup>ii</sup>

The World Health Organisation (WHO) estimates that more than half the world's adult population is either overweight (39 per cent) or obese (13 per cent).<sup>iii</sup> The prevalence of overweight and obesity among children and adolescents aged 5-19 has risen dramatically from just 4 per cent in 1975 to just over 18 per cent in 2016. The rise has occurred similarly among both boys and girls: in 2016 18 per cent of girls and 19 per cent of boys were overweight. While just under 1 per cent of children and adolescents aged 5-19 were obese in 1975, more 124 million children and adolescents (6 per cent of girls and 8 per cent of boys) were obese in 2016.<sup>iv</sup>

## CONTEXT

The Australian Institute of Health and Welfare (AIHW) lists categories of body mass index (BMI)<sup>v</sup> as:

- Underweight <18.50
- Normal range 18.50 – 24.99
- Overweight > 25.00– 29.99
- Obese class one 30.00 – 34.99
- Obese class two 35.00 – 39.99
- Obese class three > 40.00

Dietary risks and high BMI are the two leading risk factors in Australia's burden of disease. The estimated annual cost of obesity in Australia for was \$11.6 billion (\$5.4 billion in health system costs; and \$6.4 billion in other indirect costs), This is an increase of \$3.2 billion from 2014/15 and is said to be a conservative estimate, which does not calculate the considerable quality of life impacts for individuals or their families and carers.<sup>vi</sup>

In New Zealand, health care costs attributable to obesity were estimated to be NZ\$686 million (4.5 per cent of New Zealand's total health care expenditure in 2006) or \$911 million when lost productivity was included.

The following statistics further support the growing concerns over the increased rates of obesity and burden of disease that this represents:

## AUSTRALIA

- In 2017-18 67 per cent of Australian adults were overweight or obese (36 per cent overweight, 31 per cent obese). This is up from 63 per cent in 2014-15.<sup>vii</sup>
- 25% of Australian children aged 5–17 were overweight or obese (17 per cent and 8 per cent respectively). This was an overall reduction from 2014-15. However, there was an increase

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in the number of children in the obese category.<sup>viii</sup>

- There was a large increase for those aged 18–24 years, with 38.9 per cent overweight or obese in 2014–15 compared with 46.0 per cent in 2017–18<sup>ix</sup>
- In 2017–18, a greater proportion of men aged 18 years and over were overweight or obese than women (74.5 per cent and 59.7 per cent respectively).<sup>x</sup> Approximately 8.4 per cent of Australia’s total disease burden can be attributed to obesity, second only to tobacco use<sup>xi</sup>
- In 2014–15, more than 124,600 procedures related to weight-loss surgery were billed to Medicare—in public and private hospitals, and in non-hospital settings. The total costs for these Medicare-billed procedures were about \$62.8 million, with about \$25.7 million in benefits paid by Medicare, and about \$37.1 million paid in out-of-pocket costs by patients and/or health insurers.<sup>xii</sup>
- It is estimated that, if no further action is taken to slow the rise in obesity, there will be \$87.7 billion in additional costs due to obesity over a 10-year period (2015–16 to 2024–25).<sup>xiii</sup>

## NEW ZEALAND

The New Zealand Health Survey 2017/18<sup>xiv</sup> found that:

- around 1 in 3 adults (aged 15 years and over) were obese (32 per cent)
- 47 per cent of Māori adults were obese
- 65 per cent of Pacific adults were obese
- adults living in the most deprived areas were 1.6 times as likely to be obese as adults living in the least deprived areas
- the adult obesity rate increased from 27 per cent in 2006/07 to 32 per cent in 2017/18.
- around 1 in 8 children (aged 2–14 years) were obese (12 per cent)
- 17 per cent of Māori children were obese
- 30 per cent of Pacific children were obese
- children living in the most deprived areas were 2.1 times as likely to be obese as children living in the least deprived areas<sup>\*</sup>
- the child obesity rate increased from 8 per cent in 2006/07 to 12 per cent in 2017/18

## HEALTH AND WELLBEING IMPACTS

The effects of being obese are significant public health problems that are associated with a broad range of chronic clinical conditions and premature mortality. People who are obese are far more likely to develop problems with their blood pressure, cholesterol, triglycerides and insulin resistance. Risks of coronary heart disease, ischemic stroke, Type 2 diabetes and a range of cardiovascular disease subtypes also increase steadily with increasing BMI. Raised BMI increases the risk of cancer of the breast, colon, prostate, endometrium, kidney and gall bladder.<sup>xv</sup>

Anaesthesia of patients who are obese can be problematic because of the increased risk of high blood pressure, heart disease, decreased oxygen delivery, hiatus hernia, and a higher risk of regurgitation and aspiration. Obtaining intravenous access and performing regional anaesthesia may also be difficult. For these and other reasons, it is advisable that in the first instance, patients who are obese try to lose weight prior to elective surgery.

An increasing number of research studies have demonstrated the link between obesity and poorer outcomes following surgery.<sup>xvi</sup> <sup>xvii</sup> Patients with a BMI over 40 suffer disproportionately greater complications and morbidity than those who are less obese or in the recommended weight range. Compared with patients in the recommended weight range, those with the modified metabolic syndrome (obesity, hypertension, treated diabetes) had two to three times higher risk of cardiac

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complications, 1.5 to 2.5 times higher risk of pulmonary complications, two times higher risk of coma and stroke, and a three to seven times higher risk of acute kidney injury.<sup>xviii</sup>

Surgeons need to have an awareness of the increased risks in performing surgery in obese patients especially those with the additional features of metabolic syndrome that include central obesity, hypertension, impaired glucose tolerance, dyslipidaemia and prothrombotic and proinflammatory states.<sup>xix</sup> This should include an awareness of the organ systems particularly at risk and the employment of strategies to attempt to reduce the risks. These strategies will commonly involve the anaesthetist and relevant physicians in the preoperative and postoperative phases, as well as equipment and facility factors. Surgery can be performed safely in this compromised group with a multi-disciplinary approach.

## WHAT CAN BE DONE?

### *Multi-disciplinary approach that avoids blaming patients*

In recent years an increasing number of research studies<sup>xx xxii</sup> have highlighted a societal tendency to link obesity with personal characteristics, such as laziness and a lack of willpower. Conversely, the complex social, environmental, biological, and psychological factors that all contribute to weight gain are routinely overlooked or ignored.

Evidence suggests that ‘shaming’ individuals in this manner has considerable physical and mental health consequences, including increased depression and anxiety, and decreased self-esteem. In many cases the added stress that comes with feeling stigmatised leads to further weight gain due to the cortisol hormones that are triggered, which lead to increased hunger.<sup>xxii</sup>

While it is important for clinicians to outline the role that obesity plays in whichever surgical condition is being treated, it is equally important that they take a sensitive approach to these discussions. This includes avoiding language that may be perceived as blaming the patient for their medical condition, while also acknowledging that obesity is a complicated disease to manage and one that requires a holistic and multi-disciplinary approach.

### *Preventative measures*

RACS believes a combination of preventative measures and an increase in the availability of treatment options for those who are already obese is the most effective way to address obesity.

Evidence suggests that taking steps to maintain a healthy weight and lifestyle throughout life is one of the most important ways to protect against many types of cancers<sup>xxiii</sup> and a range of other diseases. Examples of preventative measures include better labelling on food packaging and public education programs. There is evidence to suggest that education programs can have a positive impact on physical activity levels.<sup>xxiv xxv</sup>

### *Surgery for weight loss*

All individuals seeking weight loss should begin with non-surgical therapy and consider bariatric surgery only if they are unable to achieve sufficient long-term weight loss and co-morbidity improvement. Clinical decisions should be based on a comprehensive evaluation of the patient’s health and prediction of future morbidity and mortality.

Surgical options to address obesity include gastric bypass surgery, laparoscopic adjustable gastric

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band surgery or sleeve gastrectomy. RACS does not endorse any particular procedure.

There is strong evidence to suggest that surgery is an effective intervention for weight loss in the morbidly obese (BMI > 40) where non-surgical interventions have been ineffective, and that this may reduce the long-term costs and health impacts of obesity.<sup>xxvi</sup> Randomized controlled trials have shown that surgical treatment was statistically significantly more effective than nonsurgical therapy in reducing weight over 24 months<sup>xxvii</sup>, and that this weight loss remained present after 10 years<sup>xxviii</sup>. For obese patients with Type 2 diabetes, surgery can rapidly improve control of blood sugar and cardiovascular risk factors.<sup>xxix</sup>

There are similar benefits for patients with a BMI > 35. Generally non-operative treatment is advised for class I obesity (BMI 30–35), however where there are comorbidities there may still be a role for bariatric surgery.<sup>xxx</sup>

#### *Audit*

A registry which captures data on the number of patients, the success of surgery and any possible complications will allow the Australian and New Zealand governments and health professionals to effectively monitor and evaluate the role of bariatric surgery in addressing obesity. Audits include the bariatric registry run by the Australian and New Zealand Metabolic and Obesity Surgery Society (ANZMOSS).

## RECOMMENDATIONS

RACS encourages all Fellows to undertake training on weight bias and how to have sensitive conversations about weight. Additionally, the advancements in both surgical and medical intervention for weight management are constantly evolving and it is incumbent upon Fellows to be aware of their local obesity services and direct patients appropriately and sensitively.

RACS supports the development of national plans in Australia and New Zealand to coordinate efforts to reduce obesity through a range of regulation, and investment in programs, monitoring, and research.

RACS recommends equity of access to weight loss surgery by publicly funding bariatric surgery, including support from a team of expert clinicians for patients that meet appropriate clinical guidelines.

RACS supports the use of national bariatric surgery registries in Australia and New Zealand.

RACS recommends that health services should be adequately equipped to deal with and support the growing number of obese patients.

<sup>i</sup> World Health Organization. [Obesity and Overweight Fact Sheet](#). February 2018.

<sup>ii</sup> Ibid

<sup>iii</sup> Ibid

<sup>iv</sup> Ibid

<sup>v</sup> Australian Institute of Health and Welfare. [BMI: Where do you fit?](#) Accessed: June 2019.

<sup>vi</sup> The Obesity Collective. [Weighing In: Australia's growing obesity epidemic](#). Accessed: June 2019.

<sup>vii</sup> Australian Bureau of Statistics. [National Health Survey: First Results, 2017-2018](#). December 2018

<sup>viii</sup> Ibid

<sup>ix</sup> Ibid

<sup>x</sup> Ibid

<sup>xi</sup> Australian Institute of Health and Welfare. [Australian Burden of Disease Study](#). June 2019.

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