

## Controversies in Bariatric Surgery

# Should bariatric surgery be offered to prisoners?

Andrew R. Luhrs, M.D.<sup>\*</sup>, Marcoandrea Giorgi, M.D.

<sup>a</sup>Warren Alpert Medical School of Brown University, Providence, Rhode Island

Received 29 January 2020; accepted 24 May 2020

The United States has seen a significant increase in the number of incarcerated individuals, increasing from 250,000 to 6.6 million prisoners over the last 3 decades [1]. Given the obesity epidemic in the United States, it is not surprising that significant numbers of these prisoners are obese and have obesity related co-morbidities. While the overall prevalence of obesity among prisoners is lower than the general population, inmates frequently gain excessive weight while incarcerated, with rates of obesity as high as 75% on release from prison [2]. Additionally, prisoners are disproportionately affected by many obesity related co-morbidities compared with the general public [3].

Bariatric surgery has clearly been shown to have superior weight loss outcomes and resolution of co-morbidities compared with medical weight loss and dieting [4]. However, most prison systems offer only dieting programs for the obese prisoner, and few prisoners are referred to bariatric surgery. This is a missed opportunity. During their time of incarceration, prisoners have access to care they otherwise lack outside the prison system and have been shown to be more compliant with follow-up and dietary recommendations while incarcerated [5].

### Arguments for prisoner patient access to bariatric surgery

#### *Medical argument*

There is a large body of literature that links obesity with the development of significant and potentially fatal co-morbidities including coronary heart disease, hypertension, dyslipidemia, type 2 diabetes (T2D), stroke, gallbladder

disease, osteoarthritis, sleep apnea, respiratory problems, and some cancers. In fact, patients who have a body mass index  $\geq 30$  are twice as likely to die prematurely compared with individuals of normal weight [6]. Bariatric surgery has long been known to be the most effective and durable treatment for weight loss, resolution of these obesity-associated co-morbidities, and premature death risk reduction [4]. After bariatric surgery, the majority of patients with surgical weight loss see significant improvement or even resolution of obesity-related co-morbidities. This effect on a patient's health is significant, with a 60% reduction in mortality from any cancer, a 56% reduction in mortality from coronary artery disease, and a 92% reduction in mortality related to T2D [6].

Despite a sophisticated understanding of the effect bariatric surgery has on the health of a morbidly obese individual, many prison systems consider bariatric surgery a cosmetic procedure. This policy-level misconception leads to the fact that bariatric surgery is infrequently offered to obese prisoner patients. However, denying a morbidly obese prisoner patient access to bariatric surgery may lead to poor health outcomes, more frequent healthcare encounters, and an increased burden on the prison healthcare system. For these reasons, bariatric surgery in the prisoner patient population should be considered preventative medicine rather than mere weight loss or improved cosmesis.

#### *Financial argument*

Because of the fact that inmates within the correctional system do not have standard health insurance, any medical care rendered or surgical procedure performed is funded by the state and/or federal government. It is therefore reasonable to expect that there may be hesitancy toward offering weight loss surgery at the expense of the taxpayer. However, management of prisoner chronic medical conditions has

<sup>\*</sup> Correspondence: Andrew R. Luhrs, M.D., 195 Collyer St, Providence, RI 02905.

E-mail address: [Andrew.luhrs@brownphysicians.org](mailto:Andrew.luhrs@brownphysicians.org) (A.R. Luhrs).

significant financial impact on the prison system and obesity, and its associated co-morbidities significantly affect performance of prisoner healthcare [7]. For example, management of T2D alone costs the prison system approximately \$10,000 per inmate per year [8]. If serving a longer sentence, an obese prisoner with obesity related co-morbidities is likely to cost the prison healthcare system hundreds of thousands of dollars more than a nonobese individual.

Bariatric surgery costs between \$11,500 and \$26,000, depending on a number of factors [9]. Early studies showed significant reductions in healthcare expenditures after bariatric surgery [10]. More recent studies show that bariatric surgery may not produce cost savings but is likely cost-effective compared with usual medical care [11]. These data are difficult to generalize to the prisoner population; however, offering weight loss surgery to prisoner patients would likely be cost-effective and may produce savings in prisoners with lengthy sentences or those who receive Medicare or Medicaid on release.

### *Ethicolegal argument*

The most compelling argument for prisoner access to bariatric surgery lies within our ethical and legal responsibilities to this vulnerable population. *Estelle v. Gamble* (1976) secured a prisoner's right to access healthcare under the eighth amendment to the US Constitution [12]. The principle of "equivalence of care" was derived in the jurisprudence that followed this landmark case and establishes that incarcerated persons must have access to care that is equivalent to that dispensed to the general public. The principle of equivalence is a central pillar of prison healthcare and physicians "...have a duty to provide [prisoners] with protection of their physical and mental health and treatment of disease of the same quality and standard as is afforded to those who are not imprisoned or detained" [12,13]. This ethical standard has enormous legal precedent within the United States and international legal systems [13].

Nevertheless, equivalence can be a challenging metric to determine in populations that have excessive disparities between population subgroups. Within the United States, Centers for Medicare and Medicaid Services guidelines would be a suitable starting benchmark because this is the standard of care a significant proportion of our indigent population receives. Centers for Medicare and Medicaid Services has determined that bariatric surgery is cost-effective, improves health outcomes, and should be available to its beneficiaries. In fact, Medicare has covered bariatric surgery since 2005, and the National Institute of Health considers bariatric surgery a medically necessary treatment for morbid obesity [14]. Therefore, based on equivalency principles, prisoners should have access to bariatric surgery regardless of their legal situation. While some prisoners will be denied bariatric surgery because of security concerns, psychiatric illness, etc., this fact should not limit access to prisoners in general.

### **Preoperative evaluation**

The evaluation of prisoners for bariatric surgery presents a number of challenges and may vary significantly, depending on the local prison system and surgeon preference. Generally speaking, the prison system is understaffed and underfunded, and every effort should be made to improve efficiency of the prisoner patient's work-up while practicing equivalent care. Referrals should take into account a prisoner's security needs and ability to participate in preoperative and postoperative care. Considering this, an attempt should be made by prison-employed referring physicians to limit inappropriate referrals that will place undue cost and burden on the system. Surgeons should make every effort to avoid drastically changing practice patterns and manage prisoner patients in an equivalent manner. However, some adjustments will be necessary to accommodate the unique restrictions on a prisoner. For example, there are a number of measures that might be taken to reduce prisoner transports. In some systems, it may be possible to use prison-employed dietitians and psychologists, many of whom frequently manage bariatric patients, to perform nutrition and psychiatric evaluations, while other localities may rely heavily on telehealth encounters.

Prisoners must understand that lifelong follow-up to assess for the development of long-term complication, nutritional deficiencies, and weight recidivism will be required even after release from prison, and ability to understand and comply with these requirements should be carefully assessed. It is reasonable to expect that there will be a higher proportion of patients who do not qualify for bariatric surgery because of poor health literacy or an inability to appropriately manage nutritional deficiencies and psychiatric disorders. The importance of this cannot be stressed enough because failing to recognize this will lead poor outcomes and be a source of preventable morbidity and mortality.

### **Postoperative care**

Within the inpatient setting, there will be challenges in caring for the prisoner patient. However, every effort to provide care equivalent to the nonincarcerated patient should be made to reduce risk of morbidity. For example, frequent ambulation in a patient who requires shackles will be challenging; however, ambulation in the room or under guard may be sufficient to prevent unnecessary morbidity. Prisoner patients should be managed similar to nonprisoner patients after discharge; venous thromboembolism prevention, hydration, nutrition, and medication management should be tailored to the patient and closely managed by the surgeon and prison-employed staff. Prison-employed providers should be made aware that previously used medications will likely need to be adjusted or discontinued to avoid overdoses and prevent medicine related complications. Complications of bariatric surgery can potentially be deadly, and early diagnosis and treatment

is mandatory. Prompt recognition and treatment is crucial, and protocols should be established to guarantee a streamlined communication system between the prison-employed staff and the bariatric team to facilitate evaluation and potential transfer should a complication arise.

It would be reasonable to assume that prisoner patients may be at increased risk for dehydration and protein calorie malnutrition because of restrictions on their daily scheduled. For this reason, dietary and vitamin recommendations as outlined by the federal bureau of prison guidelines *Nutrition Management after Bariatric Surgery*, should be followed and any deviations discussed with the bariatric surgery team [15]. These guidelines are comprehensive and address protein, vitamin and micronutrient supplementation, routine surveillance nutritional deficiencies, supplemental meal requirements, and how these are to be dispensed. Prisoner patients, in addition to the prison-employed medical staff, should be self-monitoring protein and fluid consumption to avoid possible dehydration and protein calorie malnutrition.

After surgery, prisoners should be evaluated by the bariatric team at the same interval as nonprisoner patients. Prisoner patients should be followed by dietitians or nutritionist every 3–6 months and evaluated by the bariatric surgeon at least annually. Depending on local resources, it may be appropriate to conduct these visits in prison with prison-employed staff or via telehealth encounters.

Before the completion of their prison term, prisoner patients should receive detailed counseling regarding hydration, dietary management, vitamin use, and the importance of continued follow up with a bariatric surgeon. It is recommended that these patients be made follow-up appointments shortly after their release from prison to adequately address issues that may arise in this transition phase. If the prisoner will be relocating after release from prison the prisoner patient should be given a referral to a weight loss center local to them.

Despite the challenges of caring for the incarcerated bariatric patient, there are several unique opportunities that incarceration affords prisoner patients. For example, it is not an uncommon occurrence for patients who underwent bariatric surgery to become dehydrated. In the prisoner patient, this may not require a return visit to the emergency department or infusion clinic and might be safely monitored and managed within the prison system. Additionally, patients who may otherwise struggle with compliance with dietary recommendations postoperatively have few other dietary options and will be assisted with dietary compliance by prison-employed staff because commissary purchases and meal consumption is tracked for all prisoners. Finally, patients who would otherwise lack access to care may be eligible for bariatric surgery during incarceration, providing a unique opportunity to improve health outcomes in this vulnerable population.

## Conclusions

There are significant numbers of prisoners with morbid obesity and its related co-morbidities; however, referral rates for bariatric surgery from within the correctional system remain very low. Despite this fact, offering surgical management of obesity to prisoner patients is a cost-effective way to improve long-term prisoner health outcomes. More importantly, there is a strong ethicolegal argument for access to bariatric surgery among this vulnerable population.

There are a number of financial and logistical challenges at the state and federal level that will have to be overcome before offering bariatric surgery widely to the prisoner population. For these reasons, obesity medicine and surgery societies should advocate for state and federal policy change to secure funding and ensure prisoner access to bariatric surgery. Additionally, these societies should work with the bureau of prisons to develop prisoner-specific management guidelines. Furthermore, prison-employed medical directors should aim to increase bariatric surgery referrals among willing and eligible prisoner patients. Finally, bariatric surgeons should work diligently to ensure that these prisoner patients are treated with the same standard of care offered to nonincarcerated patients.

## Disclosures

*The authors have no commercial associations that might be a conflict of interest in relation to this article.*

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