

Hip and knee joint reconstruction BMI cutoff justifications of Californian orthopaedic surgeons

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INTRODUCTION: 18% of Americans have a BMI of 35 or above, and this number is expected to increase to 25% by 2030. A majority of orthopaedic joint surgeons choose not to perform hip or knee reconstruction on patients above a certain BMI threshold (often ~40). This threshold may be due to concerns about poorer outcomes and increased procedure risk in higher BMI patients, but many factors likely affect each surgeon’s decision-making process. It is therefore important to determine specific concerns that factor into BMI cutoffs, which limit access to orthopaedic care for higher BMI patients. Determining and addressing these concerns will lead to improved healthcare for patients with larger body sizes, while also identifying facilities, equipment, procedures, training, and sources of implicit or explicit bias that could be improved to accommodate larger individuals seeking joint reconstruction or other orthopaedic procedures.

METHODS: We created a short (~5 minutes) survey with the goal of identifying surgeon-specific BMI procedure cutoffs for hip and knee reconstruction surgery and related justifications. This survey was circulated within the California Orthopaedic Association (COA) report, the weekly COA newsletter, during March 2023. Questions were aimed at pinpointing BMI cutoffs based on justifications, such as infection risk, difficulty of surgery, inadequate equipment/facilities, and the American Academy of Orthopaedic Surgeons (AAOS) guidelines. We also collected information on hospital/practice type and setting (urban, suburban, or rural), as well as how many patients each surgeon treated annually or chose not to treat based on BMI. Finally, we collected data and comments from surgeons about decision-making for BMI cutoffs and what exceptions, if any, are made and under what conditions. Four categories for BMI cutoff justifications were identified: 1) Risk of secondary adverse events; 2) education and training deficiencies; 3) facility/equipment deficiencies and 4) justifications related to anti-fat bias.

RESULTS:

- Mean hip and knee replacement BMI cutoffs were 40.5±4.0 and 41±4.7, respectively (Fig. 1A).
- 75% of respondents who perform hip and knee replacement surgeries use BMI cutoffs. Years of experience decreased the likelihood of a surgeon using a BMI cutoff for these surgeries (Fig. 1B).
- 91% of surgeons indicated they are either wholly or partially responsible for setting joint surgery BMI cutoffs (Fig. 1C).
- Most surgeons cited infection risk and difficulty of surgery as justifications for using a BMI cutoff (Fig. 1D).
- The most commonly cited category of justification for using a BMI cutoff was the risk of secondary adverse events (80% of respondents), followed by justifications related to anti-fat bias (78%) and training & educational deficiencies (70%) (Fig. 1E).
- Some justifications for imposing a BMI cutoff were included in multiple categories (Fig. 1F).

DISCUSSION:

Increasing access to medical care for high weight patients is essential for continued health of patients in the United States. The population of patients above the BMI cutoff proposed by the AAOS and used by orthopaedic surgeons is projected to increase dramatically over the next 10-20 years. Secondary adverse events related to joint reconstruction in high BMI patients are important areas for medical research. Addressing these topics, rather than “curing obesity”, should be a major focus of research and funding to improve success of these surgeries. Inadequate training and education related to operating on high BMI individuals may leave surgeons, residents, fellows, and medical students underprepared to perform these procedures. Increasing access and involvement in joint reconstruction surgeries on higher BMI patients during training will begin to reduce these disparities and ensure that orthopaedic surgeons are ready to treat the patients of tomorrow. Some surgeons cited facilities that do not accommodate higher weight individuals; therefore, priority should be given to modifying or replacing equipment to accommodate these patients. Justifications potentially related to anti-fat bias were cited by 78% of surgeons, including surgeons who do not use BMI cutoffs for these surgeries. It is currently unknown how anti-fat bias may impact surgical outcomes, patient care, initial treatment assessment, time to surgery, and denial of care. Educating orthopaedic professionals in clinical and research settings on the negative impact of anti-fat bias will greatly reduce the harm caused to these patients by inadequate access to health care, weight stigma, and discrimination.

SIGNIFICANCE/CLINICAL RELEVANCE: Access to care for individuals with higher BMI is a major health care issue in the United States. Identifying and addressing concerns of orthopaedic surgeons related to performing joint reconstruction surgery on these patients could improve medical care and increase the availability of these necessary surgeries to higher weight individuals, as well as reduce the impact of anti-fat bias in orthopaedic care.

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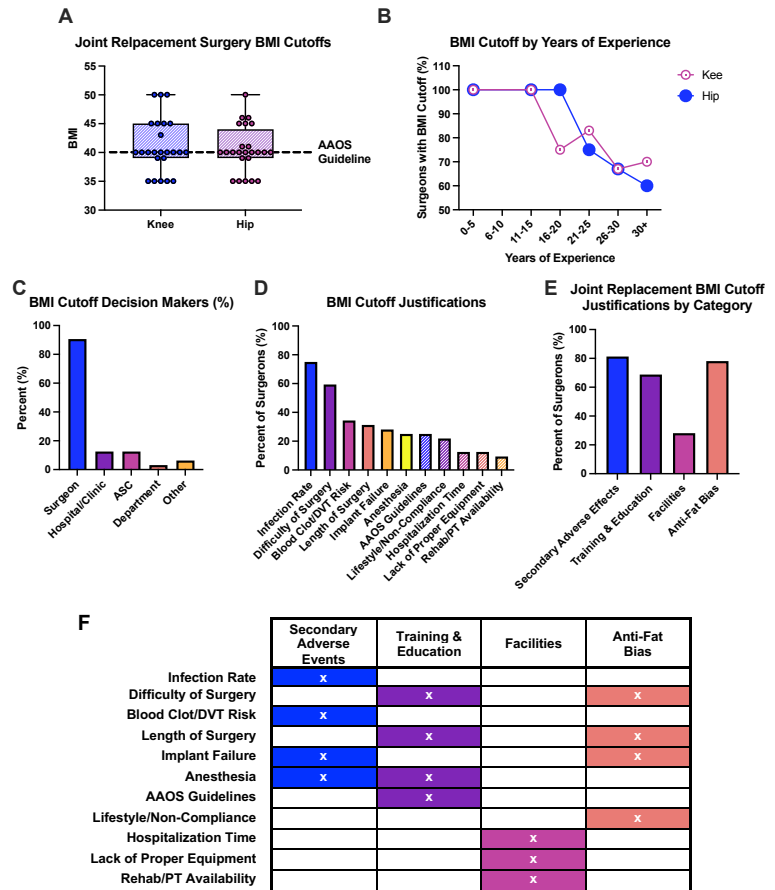


Figure 1. Survey responses of Californian orthopaedic surgeons who perform hip and knee replacement surgeries (n=32).