# Arthroplasty for Patients with Osteoarthritis and Obesity

Position Statement – Bone & Joint Health Strategic Clinical Network

Obesity is a significant co-morbidity in patients with osteoarthritis of the hip or knee. Approximately 2/3 of patients undergoing hip or knee arthroplasty in Alberta are overweight or live with obesity and the problem continues to worsen each year (based on analyses from the Alberta Bone and Joint Health Institute). The literature and provincial data clearly indicate that surgical risks in patients with obesity are higher, including the risk of infection, thromboembolism, and implant revision due to loosening[1-4].

This has led to a discussion among surgeons in Alberta regarding the establishment of a Body Mass Index (BMI) threshold for arthroplasty surgery. Patients that are above the threshold would not be considered for surgery.

The Bone & Joint Health Strategic Clinical Network (BJHSCN) leadership has a role in facilitating the provision of good quality care at the hip and knee clinics and hospitals throughout Alberta. In this light, significant work was completed in 2017/18 on developing a tool (proposed title: Arthroplasty Risk Assessment Tool – ARAT) that would be useful to patients and clinicians alike when discussing surgery including the risks, optimization and the patient's overall suitability for surgery. This work built on previous discussions and consultations with clinicians and researchers on this topic. Although the ARAT was positively received by the stakeholders engaged in this work (surgeons, patients, researchers, physiotherapists, nurses), the final determination of surgeons was that the tool did not have utility in hip and knee clinics to effectively support decision making.

The BJHSCN is firmly committed to enabling optimization of patients for arthroplasty. The question around BMI is challenging. Data from Alberta hip and knee clinics (ABJHI) and the literature indicates that patients with elevated BMI's, despite increased peri-operative risks, receive substantial benefits including pain reduction, quality of life improvement, and improved mobility and function after hip or knee arthroplasty [5-7].

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Using BMI as a surrogate for surgical risks also has significant limitations including:

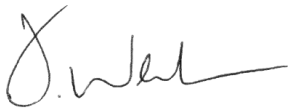
- It has limitations as a clinically meaningful index (not accurate; does not take into consideration additional underlying conditions; does not take body composition into account);
- The evidence we have looked at to date (literature review for OA-Obesity workshop white paper[8]; ABJHI analysis of Alberta data) does not provide a clear indicator of a relationship between BMI and worse or poorer arthroplasty outcomes in terms of patient quality of life improvement or satisfaction.
- There are legal and human rights issues that require consideration. We do not want surgeons to find themselves in the difficult situation of defending their decision based on one categorical score that does not have strong evidence.

Therefore, the BJHSCN recommends the following treatment principles for patients with obesity and osteoarthritis considering hip or knee arthroplasty:

- No specific BMI threshold should be considered.
- Individual patient risk stratification should be completed during preoperative assessment of the patient by clinicians. The risks of surgery may outweigh the benefits in patients with obesity and other comorbidities.
- The risks of surgery should be clearly communicated to the patient, their family, and their primary care physician.
- Prospective patients should participate in a Shared Decision Making process prior to consenting to surgery.
- Individual patient pre-operative optimization should be completed prior to surgery including, where possible, mitigating elevated risks due to obesity (i.e. Appropriate antibiotic dosing, diabetes management, HgbA1C, hypertension control, etc.).

The issue of obesity and arthroplasty is a challenging problem faced daily by patients and clinicians in the Hip and Knee Clinics and AHS acute care sites that provide this service in the province. A focus on individual patient pre-op optimization regardless of BMI, will ensure that patient outcomes are optimized and that patient satisfaction and experience remains high. As more evidence is gathered, this policy will be reviewed and updated.

*This statement is an expression of the BJH SCN Leadership Team:*



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