

THE IMPORTANCE OF HEALTH OPTIMIZATION PRIOR TO JOINT REPLACEMENT SURGERY

OPTIMIZE YOUR HEALTH BEFORE SURGERY TO OPTIMIZE YOUR OUTCOME AFTER SURGERY

There are both modifiable and non-modifiable risk factors that increase the risk of postoperative complications after total joint replacement, some of which include infection, higher rates of revision surgery, longer length of hospital stays, and hospital readmission.

Greater than 40% of all revision THAs and TKAs* performed within 2 years of the initial surgery have at least one modifiable risk factor present at the time of revision surgery.¹

*THA: Total Hip Arthroplasty
TKA: Total Knee Arthroplasty

References: 1. Kee JR, Mears SC, Edwards PK, Barnes CL. Modifiable Risk Factors Are Common in Early Revision Hip and Knee Arthroplasty. *J Arthroplasty*. 2017 Dec; 32(12):3689-3692. doi: 10.1016/j.arth.2017.07.005. Epub 2017 Jul 14. PMID: 28780223

2. Edwards PK, Mears SC, Stambough JB, Foster SE, Barnes CL. Choices, Compromises, and Controversies in Total Knee and Total Hip Arthroplasty Modifiable Risk Factors: What You Need to Know. *J Arthroplasty*. 2018 Oct; 33(10):3101-3106. doi: 10.1016/j.arth.2018.02.066. Epub 2018 Feb 23. PMID: 29573920



FEATURED MODIFIABLE RISK FACTORS²



UNCONTROLLED DIABETES (H_{gA1c} > 7.5)

Optimization goal: H_{gA1c} ≤ 7.5

- surgical site infection
- increased risk of mortality



OBESITY (BMI > 40kg/m²)

Optimization goal: BMI < 40kg/m², preferably 35 kg/m²

- longer operative times
- surgical site infection
- increased rate of DVT
- longer length of stay
- higher rate of reoperation
- higher rate of readmission



NICOTINE USE

Optimization goal: Ideally patients should quit all nicotine. If you cannot quit, abstain 4 weeks prior to & after surgery.

- wound complications
- cardiopulmonary & ICU complications
- implant loosening
- hospital readmission 3x more likely
- surgical complications 2x more likely



MALNUTRITION (Albumin < 3.5g/dL)

Optimization goal: Albumin > 3.5g/dL

- independent risk factor for any complication including death
- higher rate of readmission
- pneumonia
- longer length of stay
- surgical site infection



VITAMIN D DEFICIENCY (< 30 ng/mL)

Optimization goal: Vitamin D > 30 ng/mL

- higher complication rates including infection
- longer length of stay
- poor functional outcomes
- poor pain outcomes



ANEMIA (Hgb < 12g/dL females; Hgb < 13g/dL males)

Optimization goal: Hgb > 12g/dL females; > 13g/dL males

- cardiac complications
- surgical site infection
- genitourinary complications
- longer length of stay
- increased risk of mortality



DEPRESSION

Optimization goal: Consult your PCP for treatment options prior to scheduling surgery.

- poor outcomes
- hospital readmission
- increased rate of ICU admission
- prolonged rehab
- lower satisfaction



PREOPERATIVE OPIOID USE

Optimization goal: Stop taking all opioids prior to surgery, or obtain at least a 50% reduction in use with the help of your PCP or pain management specialist.

- predicts postoperative use
- higher rate of discharge to a facility
- higher rate of revision surgery
- longer length of stay
- increased complications within 90 days of surgery