## Preoperative Nutritional Lab Values Are Not Associated with 90-Day Reoperation Rates Following Total Knee Arthroplasty

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## INTRODUCTION:

Preoperative patient optimization is an established practice for minimizing total knee arthroplasty (TKA) complications. Several publications have recommended specific preoperative laboratory studies for nutritional assessment, though they are infrequently obtained and their association with complications is not well understood. We sought to assess the association of nutritional lab values prior to TKA with 90-day reoperation rates.

## METHODS:

The Epic Cosmos database, a dataset created in collaboration with a community of Epic health systems representing over 246 million patient records from over 1,400 hospitals and 33,000 clinics in the United States, was used to identify 762,205 patients undergoing TKA from 2015 to 2023. The incidences of preoperatively ordered albumin, prealbumin, transferrin, and total lymphocyte count labs within 90 days of TKA were assessed. The multivariable associations of lab values with 90-day reoperation were assessed using logistic regression to adjust for age, BMI, gender, race, hemoglobin, and comorbidity load with odds ratios and 95% confidence intervals (C.I.) reported.

## RESULTS:

Nutritional lab values were infrequently obtained prior to TKA: albumin (36%), prealbumin (3%), transferrin (2%), and total lymphocyte count (35%). In total, 43,722 patients (6%) had a reoperation within 90 days of TKA. Even after adjusting for potential confounders, and with power to detect a difference, no clinically significant associations with 90- day reoperation was found for albumin (OR= 0.991, 95% C.I., 0.922±1.066), prealbumin (OR= 0.998, 95% C.I., 0.986- 1.010), transferrin (OR= 1.001, 95% C.I., 0.999 -1.003), nor total lymphocyte count (OR= 0.997, 95% C.I., 0.993 - 1.001).

DISCUSSION AND CONCLUSION: Despite recommendations and increased attention, nutritional studies are infrequently ordered prior to TKA. Additionally, preoperative nutritional markers had no association with 90-day reoperation risk. As value-based care models re-emerge, work is needed to understand how best to assess and optimize nutrition prior to TKA as not all patients may benefit from testing.