

The Impact of Bone Marrow Transplant on Total Joint Arthroplasty Outcomes in Patients Diagnosed with Multiple Myeloma
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INTRODUCTION:

As screening and treatment for multiple myeloma (MM) improve, 5-year survival rates continue to rise. Bone marrow transplant (BMT) remains a challenging but effective long-term therapy. While post-operative outcomes after total joint arthroplasty (TJA) are well-studied in solid organ transplant recipients, data for BMT recipients is limited. This study aims to define the impact of BMT on TJA outcomes.

METHODS: We used a large national insurance database to compare post-surgical complications in MM patients who underwent TJA, with or without prior BMT. Retrospective database review assessed differences in demographics, perioperative complications, readmissions, and postoperative risks. Perioperative outcomes were compared using multivariate analysis.

RESULTS:

BMT recipients undergo TJA at a younger age (THA: 61 vs 68 years, TKA: 66 vs 69 years). BMT recipients do not have a higher risk of prosthetic joint infection (THA: $p=0.32$; TKA: $p=0.3$), periprosthetic fracture (THA: $p=0.9$; TKA: $p=0.98$), or prosthetic instability (THA: $p=1$; TKA: $p=1$). However, BMT recipients have higher rates of pathological fractures (THA: OR: 0.92; TKA: OR: 1.73). All-cause 90-day readmission rates are similar, but BMT recipients have increased odds of thromboembolic events after TJA (THA: OR 2.12, TKA OR: 1.19).

DISCUSSION AND CONCLUSION: Prior BMT does not increase prosthetic complications in MM patients undergoing hip or knee arthroplasty but is associated with higher risks of thromboembolic events and pathological fractures, warranting careful perioperative management.