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Quality improvement initiative reduced transfusions during total joint replacement

Use of a quality improvement initiative effectively decreased blood transfusions and kept transfusions within the American Association of Blood Banks guidelines in patients undergoing hip and knee arthroplasty, according to results.



David C. Markel

To identify changes surrounding the [blood transfusion](#) educational initiative at their institution, David C. Markel, MD, and colleagues collected preoperative and postoperative hemoglobin levels, transfusion status and number of units transfused and transfusions outside of protocol for 6,645 patients undergoing primary [hip and knee arthroplasty](#) from 2012 through 2017 using Michigan Arthroplasty Collaborative Quality Initiative data. During the study, researchers calculated the transfusions prevented and cost implications.

Compared to pre-education values, results showed a significant decrease in transfusion rate and overall transfusions at each time point evaluated. Researchers also found significant decreases in both transfusion rate and overall transfusions in a subgroup analysis of TKA and THA. Only two patients experienced transfusion outside of the American Association of Blood Banks protocol during the final 3 years of the study, according to results. During the study period, researchers estimated 519 transfusions were prevented.

According to Markel, patient care can be improved with the use of quality initiatives and educating and providing information to physicians and staff on data-driven quality practices have an immediate and long-lasting impact.

“The ‘transfusion initiative’ highlighted in our manuscript was based on information and data derived from our participation in the Michigan Arthroplasty Registry Quality Collaborative Initiative (MARCQI). Through MARCQI and an educational program at our hospitals, transfusion rates immediately declined, and transfusion practices became more regimented,” Markel told Healio Orthopedics. “The improvement in transfusion rates and compliance with transfusion guidelines continued over time without ongoing efforts. The impact of the quality initiative was long lasting. Quality programs and quality collaboratives will continue to grow and will have a significant impact on patient care at the local, regional and national levels.” – by Casey Tingle

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Disclosures: Markel reports he is a member of the executive committee for MARCQI. Please see the study for all other authors’ relevant financial disclosures.

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