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Is there a role for pre-operative iron supplementation in patients preparing for a total hip or total knee arthroplasty?

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Abstract

Background Several treatment modalities exist for the treatment of peri-operative anemia. We determined the effect of oral iron supplementation on pre-operative anemia, and the use of blood-conserving interventions prior to total hip (THA) and total knee arthroplasty (TKA).

Methods A total of 3,435 total joint replacements (1,461 THAs and 1,974 TKAs) were analyzed during two phases of a blood-conservation program. The first phase utilized erythropoietin alfa (EPO) or intravenous (IV) iron for patients at risk for peri-operative anemia. The second phase included these interventions, as well as pre-operative iron supplementation. The effect on pre-operative hemoglobin (Hb) and serum ferritin, as well as EPO and IV iron utilization, was determined.

Results Oral iron therapy increased pre-operative Hb by 6 g/L ($p<0.001$) and 7 g/L ($p<0.001$) in the hip and knee cohorts, respectively. Serum ferritin rose by 80 ug/L ($p<0.001$) and 52 ug/L ($p<0.001$) in the hip and knee cohorts, respectively. Patients with Hb < 130 g/L was significantly reduced ($p<0.001$ for both cohorts), as were patients with serum ferritin levels <35 ug/L ($p=0.002$ for hip and $p<0.001$ for knee cohorts). Utilization of EPO reduced from 16 to 6% ($p<0.001$) and 18 to 6%

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