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Utility of Noninvasive Transcutaneous Measurement of Postoperative Hemoglobin in Total Joint Arthroplasty Patients.

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This study prospectively evaluated the clinical utility of a noninvasive transcutaneous device for postoperative hemoglobin measurement in 100 total hip and knee arthroplasty patients. A protocol to measure hemoglobin noninvasively, prior to venipuncture, successfully avoided venipuncture in 73% of patients. In the remaining 27 patients, there were a total of 48 venipunctures performed during the postoperative hospitalization period due to reasons including transcutaneous hemoglobin measurement less than or equal to 9g/dL (19), inability to obtain a transcutaneous hemoglobin measurement (8), clinical signs of anemia (3), and noncompliance with the study protocol (18). Such screening protocols may provide a convenient and cost-effective alternative to routine venipuncture for identifying patients at risk for blood transfusion after elective joint arthroplasty.