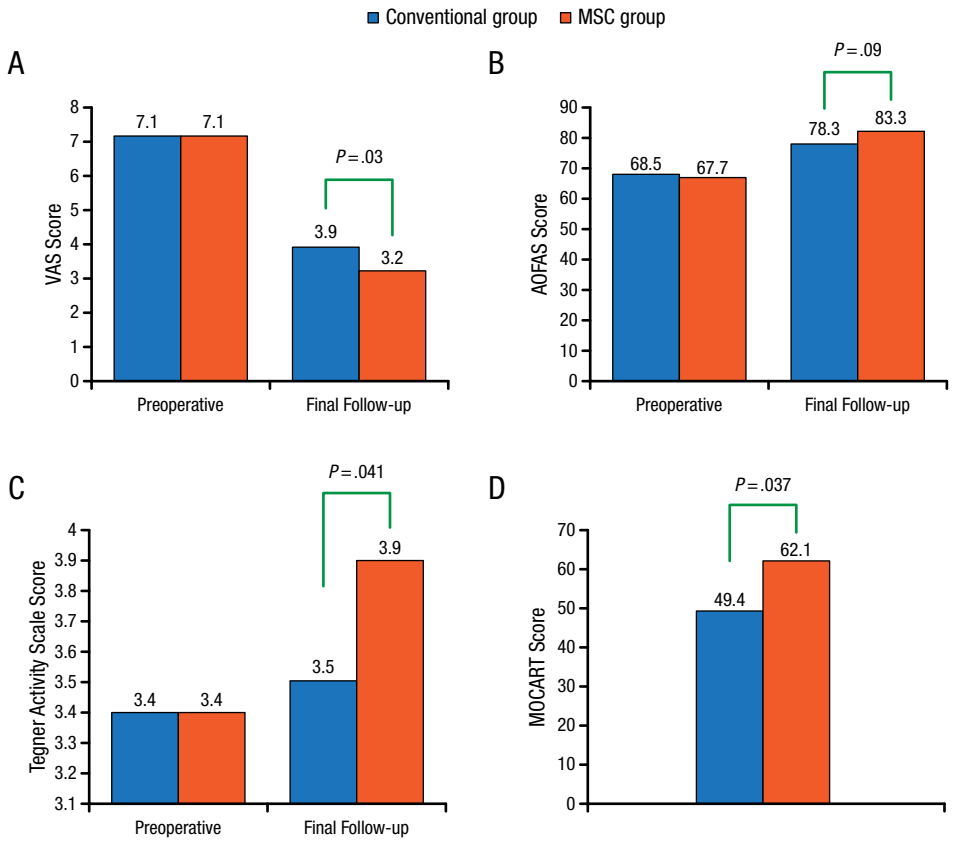
Figure 1. Improvements in Clinical and Radiographic Outcomes



AOFAS, American Orthopaedic Foot & Ankle Society; MOCART, Magnetic Resonance Observation of Cartilage Repair Tissue; MSC, mesenchymal stem cell; VAS, visual analog scale.
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Scale. The Magnetic Resonance Observation of Cartilage Repair Tissue (MOCART) score measured radiographic evaluations.

In both groups, improvements were noted in all 3 clinical outcomes as well as the radiographic outcome. All clinical and imaging outcomes improved significantly in the MSC group compared with the conventional group (Figure 1).

There was a significant correlation between the MOCART score and clinical outcomes in both groups ($P < .05$). Patient age (≥ 46.1 years), larger lesion size (≥ 151.2 mm^2), and the presence of a subchondral cyst were all associated with worse MOCART scores in the conventional group ($P = .015$, .004, and .013, respectively) but not in the MSC group.

Prof Kim summarized these findings as encouraging and suggested that injection of MSCs alongside BMS might be an additional therapeutic option for patients with OLT who are likely to have a poor prognosis with BMS alone.

IPCDs and Warfarin Similarly Effective for Preventing VTE After Joint Replacement

Written by Jaye Summers

Venous thromboembolism (VTE) is the most common complication of total knee arthroplasty (TKA) and total hip arthroplasty (THA). It is estimated that approximately 1 in 100 patients undergoing TKA and approximately 1 in 200 patients undergoing THA develop symptomatic VTE following surgery [Januel JM et al. *JAMA*. 2012].

The American Academy of Orthopaedic Surgeons has issued recommendations for VTE prophylaxis that include the use of various pharmacologic agents and/or intermittent pneumatic compression devices (IPCDs) for patients undergoing elective TKA or THA who have no additional risks for VTE or bleeding beyond the surgery itself [Jacobs JJ et al. *J Bone Joint Surg Am*. 2012]. The

American College of Chest Physicians guidelines have also expanded their recommendations and now include the use of an IPCD, with the caveat that it be portable, battery powered, and able to monitor on a daily basis whether the patient wears the device and for how long [Falck-Ytter Y et al. *Chest*. 2012].

While warfarin is commonly prescribed to prevent VTE following TKA and THA, it has a narrow therapeutic index, can cause severe bleeding, requires frequent monitoring, and is associated with food and drug interactions. Ryan M. Nunley, MD, Washington University School of Medicine, St Louis, Missouri, USA, described a prospective study designed to compare the safety and efficacy of a mobile IPCD compared with warfarin therapy for the prevention of VTE among patients undergoing TKA and THA. A second goal was to evaluate whether patients were satisfied with the treatment they received.

The study included 2722 adults undergoing elective primary or revision TKA or THA (Table 1). Patients were stratified to either a standard-risk (n = 1888) or high-risk (n = 834) VTE prophylaxis for 6 weeks postoperatively, depending on the local treatment protocol. In the standard-risk protocol, patients wore an IPCD for 10 days and took aspirin 325 mg twice daily for 6 weeks. High-risk patients received 4 weeks of dose-adjusted warfarin and wore compression stockings for 6 weeks.

Ineligibility criteria included prior surgery within 3 months, preoperative deep vein thrombosis (DVT), history of pulmonary embolism (PE), chronic anticoagulation therapy, and prolonged immobilization following surgery.

Postoperatively, patients were monitored for bleeding complications, symptomatic VTE, and hospital readmissions. At 4 to 6 weeks, there were no significant differences in the rate of DVT/PE in the standard- vs high-risk groups, TKA vs THA, or primary vs revision surgery (Table 2). Patients in the high-risk group experienced significantly more drainage postoperatively compared with the low-risk group (21% vs 14%, respectively; $P < .001$). Major bleeding events were significantly higher in the high-risk group than in the standard-risk group (2% vs 0.3%, respectively; $P < .001$); the high-risk group also experienced more wound problems (1.3% vs 0.2%, respectively; $P = .002$). Overall, patients who received the IPCDs were more satisfied with their treatment than those who received high-risk anticoagulation therapy ($P < .001$).

In conclusion, IPCDs and warfarin were similarly effective in preventing VTEs. However, patients with an IPCD experienced significantly fewer major bleeding events, wound complications, and days of drainage. In addition, patients were more satisfied with IPCD treatment than warfarin treatment.

Table 1. Stratification by Treatment Protocol and Type of Procedure

Treatment Protocol and Type of Procedure	No. (%)
Standard risk	1888 (69)
High risk	834 (31)
Total knee arthroplasty	1635 (60)
Total hip arthroplasty	1087 (40)
Primary	2393 (88)
Revision	329 (12)

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Table 2. Comparison of DVT/PE Rates at 6 Weeks

Group	Rate, %	*P* Value
Standard risk	0.4	.77
High risk	0.6	
Hip	0.7	.59
Knee	0.4	
Primary	0.6	.16
Revision	0	

DVT, deep vein thrombosis; PE, pulmonary embolism.
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Cementless Fixation in TKA Noninferior to Cemented Fixation at 2 Years

Written by Maria Vinall

In a clinical study reported by Kevin B. Fricka, MD, Anderson Orthopaedic Clinic, Alexandria, Virginia, USA, patients receiving total knee arthroplasty (TKA) using cementless fixation had similar clinical and functional scores and equivalent levels of satisfaction compared with those receiving cemented TKA after 2 years.

Cemented TKA is associated with excellent long-term survival and is the preferred approach for the majority of surgeons. Cementless TKA, while having favorable long-term results on the femoral side [Baker PN et al. *J Bone Joint Surg Br*. 2007], has been associated with failure related to the tibial or patellar components. This was a prospective single-surgeon study designed to assess clinical outcomes, patient satisfaction, and long-term