Background: Thromboprophylaxis is recommended after major orthopaedic surgery to prevent the risk of deep vein thrombosis (DVT) and pulmonary embolism (PE).

Methods: Cohort of all patients with TKR performed in France from Jan-2013 to Sep 2014. Data on return after discharge, follow-up for 3 months in the French national claims database and hospitalization database. Patients treated with a DOAC were 1:1 matched on gender, age, propensity score with those receiving LMWH. Main outcomes were hospitalization with primary diagnosis of DVT or bleeding, and all causes death during the follow-up or anticoagulant switch. Relative risks were estimated using a propensity score method, with sub-analyses for each DOAC. Medical costs were calculated according to the perspective of the patient.

Results: Among the 161,724 TKR identified in the SNDS database between 2013 Jan-14 and Sep-2014, 49,235 were included (the main reason not to be included was no home return after discharge, mainly by high frailty facility admission). 15,738 were treated with a DOAC (no significant differences between DOAC within the most commonly used); 295% of DOAC and LMWH were dispensed the day of or the day after the discharge, with a median of 30 days of treatment. Almost all DOAC patients (98.9%) were individually matched to a LMWH patient.

Conclusions: This nationwide cohort study shows a low risk of VTE, clinically relevant bleeding and death after discharge for patients with anticoagulants for VTE prevention following TKR in real-life setting, and a better benefit-risk ratio of DOAC compared to LMWH, associated with cost savings.