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Results

- After matching, each cohort consisted of 1,082 well-balanced patients.
- 90 days: Non-Aspirin monotherapy was associated with higher rates of deep vein thrombosis (3.05% vs 1.39%, $p=0.009$), VTE (4.07% vs 2.22%, $p=0.014$) and transfusion (7.30% vs 4.44%, $p=0.005$) compared to Aspirin monotherapy (Table 1).
- 1 year: Similar death and re-revision rates (Table 2).

- After matching, each cohort consisted of 732 well-balanced patients.
- 90 days: Dual therapy was associated with higher rates of transfusion (6.42% vs 4.10%, $p=0.047$) compared to Aspirin monotherapy (Table 1).
- 1 year: Similar death and re-revision rates (Table 2).

We conducted a propensity-score matched analysis to:

Compare the safety and effectiveness of Aspirin monotherapy with non-Aspirin monotherapy and dual therapy following single-stage septic rTKA in preventing VTE

We conducted a retrospective analysis using the Research Network on the TriNetX healthcare database (2005 – 2025)

We identified adult patients undergoing their first single-stage rTKA for PJI using ICD-9/10 and CPT codes.

Patients were required to have a preoperative PJI diagnosis.

Patients with spacer insertion/removal/exchange and/or arthrotomy codes on same day of surgery were excluded.

Stratified based on the postoperative VTE drug prescribed (defined as prescription within 2 weeks after surgery [2]) into 3 cohorts:

1. Aspirin
2. Non-Aspirin (Rivaroxaban, Apixaban or Enoxaparin)
3. Dual therapy (Aspirin and a non-Aspirin)

Ensured no overlapping prescriptions in monotherapy cohorts.

1:1 propensity score matched for relevant comorbidities, including age at surgery, sex, history of VTE, stroke, cancer, coagulopathy, body mass index, tranexamic acid use, glycemic control and smoking among other variables.

Compared outcomes after matching using Aspirin cohort as reference.

Outcomes of interest included:

- 90-day risk of VTE, bleeding, transfusion, wound disruption, surgical site infection (SSI) and re-revision surgery
- 1-year risk of death and re-revision surgery.

TriNetX built-in tool for statistical analysis.

Used chi-square test for categorical variables and student t-test for continuous variables

Significance threshold was set at $p < 0.05$.

Results

The initial database query resulted in 4,061 patients, with 1,785 patients receiving Aspirin, compared to 1,411 receiving non-Aspirin prophylaxis and 865 receiving dual therapy.

Table 1: Summary of the 90-day outcomes after matching 1:1 comparing use of aspirin with non-Aspirin and dual therapy after septic single-stage total knee revision

Table 2: Summary of the 1-year outcomes after matching 1:1 comparing use of aspirin with non-Aspirin and dual therapy after septic single-stage total knee revision

- First study to compare VTE prophylaxis agents in the setting of single-stage septic rTKA.

- Aspirin was not associated with increased risk of VTE, bleeding or wound complications.

- This data suggests that Aspirin is safe and non-inferior to other anticoagulant regimens following single-stage septic rTKA for VTE prevention

- Further prospective studies are needed to confirm these findings.

References

1. Hoveidaei AH, Pirahesh K, Over D, Reich J, Suresh S, Adolf J, Conway JD. Is Septic Revision Knee Arthroplasty Associated With Higher Thromboembolic Events? A Matched Cohort Study. *J Arthroplasty*. 2026 Jan 6:S0883-5403(26)00009-4. doi: 10.1016/j.arth.2026.01.009. Epub ahead of print. PMID: 41506407.
2. Porto JR, Lavu MS, Hecht CJ 2nd, Arnold KE, Acuña AJ, Kaelber DC, Parvizi J, Kamath AF. Low-Dose Aspirin: The Safest Prophylactic Approach for Venous Thromboembolism Prevention Following Total Hip Arthroplasty Across All Risk Profiles. *J Arthroplasty*. 2026 May;41(5):1525-1532. doi: 10.1016/j.arth.2025.09.026. Epub 2025 Sep 22. PMID: 40992597.