Table 3. Summary of findings of our included studies.

Title	Author; Year	Country	Study Design	Recruitment Period	Procedure	N	Age; Mean ± SD	Inclusion Criteria	Tourniquet Cuff Pressure	Tranexamic Acid Protocol	Outcomes Collected	Main Findings
Comparison of the effects of high tibial osteotomy with and without a tourniquet	Huiwen Wu; 2024 [12]	China	RCT	February 2019 to June 2021	Medial open wedge high tibial osteotomy	No tourniquet: 43; With tourniquet: 43	No tourniquet 56.28 ± 6.48; With tourniquet 57.53 ± 5.85	1. Patients who were less than 65 years old (female less than 60 years old) 2. Patients with osteoarthritis in the medial compartment of the knee 3. Kellgren–Lawrence classification ≥ grade 2 4. Medial proximal tibial angle less than 85° 5. Unilateral HTO needed	Minimum of 100 mmHg (approximately 13.33 kPa)	2 g of TXA in 30 mL upon incision closure	Intraoperative complications, drainage volume, operative time and length of hospital stay were recorded for both groups. Pre- and postoperative complete blood counts were measured, and hematocrit and haemoglobin indices were recorded Serum concentrations of CRP and IL-6 before and three days after surgery.	Tourniquet use in HTO surgery reduced intraoperative blood loss and shortened the operative time yet does not substantially affect total bleeding. Nonetheless, there was a reduction in postoperative pain and facilitated early rehabilitation of knee function.
Not using a tourniquet is superior to tourniquet use for high tibial osteotomy: a prospective, randomised controlled trial	Songlin Li; 2022 [5]	China	RCT	November 2019 to May 2021	Medial open wedge high tibial osteotomy	No tourniquet: 45; With Tourniquet: 45	No tourniquet 59.68 ± 8.34; With tourniquet 58.8 ± 8.33	1. Knee medial compartment osteoarthritis 2. Unilateral HTO needed	45 kPa	2 g of TXA in 30 mL upon incision closure + 2 g of TXA in 100 ml of saline 3 hours post-op	Intra-operative complications, opening angle, arthroscopic exploration time, tourniquet usage time, operation time, hospital stay, number of patients who required morphine hydrochloride, thigh complications (thigh pain, numbness and blisters), incision complications (incision infection, hematoma and delayed healing) and thrombotic complications were recorded The blood transfusion volume and the number of transfusions. Total estimated blood loss, drainage volume, hemoglobin, hematocrit, knee ROM, post-activity VAS score for pain and maximum calf circumference were recorded on post-operative day 3. At post-operative month 3, the VAS score and the HSS knee score were recorded as well.	When HTO is performed without a tourniquet, there is no reduction in postoperative blood loss, operation time, or intraoperative complications, but avoiding the tourniquet shortens the hospital stay and reduces the need for morphine postoperatively and complications associated with the tourniquet, resulting in an earlier recovery of knee function
The incidence of thrombosis in high tibial osteotomies with and without the use of a tourniquet	Motycka; 2000 [10]	Austria	RCT	Not Specified	Medial open wedge high tibial osteotomy	No tourniquet: 28 With Tourniquet: 37	Not Specified, Overall: 61	1. Patients undergoing high tibial osteotomy for varus arthrosis of the knee 2. Able to comply with frequent D-Dimer blood testing	300 mmHg	None used (LMWH prophylaxis transitioned to oral anticoagulation)	1. D-Dimer test pre and post-operatively 2. Phlebography to confirm DVT	Incidence of DVT was not significantly different between those treated with or without a tourniquet, although the majority of thromboses occurred in the tourniquet group. While tourniquet use may contribute to thrombotic events, it does not significantly alter overall DVT risk
Impact of tourniquet on short-term outcomes in opening wedge high tibial osteotomy with modern tranexamic acid protocols	Wang; 2021 [9]	China	Retrospective cohort	Jan 2019 to Sep 2020	Medial open wedge high tibial osteotomy	No tourniquet: 30 With Tourniquet: 32	No tourniquet 46.93 ± 12.30; Tourniquet 47.91 ± 11.74	1. Patients witn medial unicompartmental OA with varus deformity 2. Stable knee without ligament insufficiency 3. Failed >3 months conservative therapy 4. Age 21-69	100 mmHg above systolic	2 g IV TXA before tourniquet inflation (or incision in no-Tourniquet group) 2 g IV TXA at 3 hours postoperative	1. Perioperative blood loss 2. Transfusion rates 3. Radiographic outcomes (MPTA, HKA, posterior tibial slope) 4. VAS, knee ROM Day 1-3, 3 months) KSS score 5. Complications	Tourniquet use lowered intraoperative blood loss but did not reduce total blood loss or transfusion needs. Instead, it increased early postoperative pain and reduced knee range of motion, with no long-term functional or complication differences. Omitting tourniquet use supports faster early recovery without added risk.

Abbreviations: TXA; tranexamic acid. VAS; Visual Analog Score. KSS; Knee Society Score