Tourniquet Use During Open Reduction and Internal Fixation of Ankle Fractures – A Systematic Review and Meta-Analysis. Davey, et al. *The Journal of Foot & Ankle Surgery*, Volume 61, Issue 5, 2022

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Level of Evidence: 1

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Many ankle fractures may need to be addressed surgically by open reduction and internal fixation (ORIF) to achieve stability, for which a tourniquet at the level of the upper thigh is commonly used by surgeons worldwide. In this study, a meta-analysis of 4 RCTs, including 350 patients, was performed to compare clinical outcomes of ankle ORIF with tourniquet use versus control group without tourniquet use.

Although tourniquet use is intended to reduce blood loss, enhance the surgeon's visibility, and reduce the duration of operation, this study found that the advantages does not come without potential risks. There was a finding of significantly higher patient reported pain at two days post-operatively with tourniquet use. Another statistically significant finding was lower ankle ROM five weeks post-operatively with the use of a tourniquet.

A potential benefit of intra-operative tourniquet use is the reduction in operation time with tourniquet use, which was a statistically significant finding. This authors attribute this finding to a blood-less surgical field allowing for greater efficiency in surgical approach, reduction, internal fixation, and closure.

Statistically non-significant findings included higher length of hospital stay with tourniquet use, non-significant difference in DVT rate when tourniquet was used, and non-significant difference in the rate of wound infections when using a tourniquet.
