

## **S-MART and Pneumatic tourniquet in foot surgery -a randomized controlled study**

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S-MART tourniquet is a good for foot surgery, provides a good operative field, is easy to apply and saves precious theatre-time and resources.

We undertook a prospective randomized study to assess the efficacy of the S-MART tourniquet in foot surgery as compared to the pneumatic tourniquet. A literature review confirms this is the first randomized controlled study objectively measuring the outcomes of this tourniquet system.

We included 60 consecutive patients who had foot surgery from May 2006 to November 2006. Informed consent with local medical ethical approval was obtained. We excluded patients with history of diabetes mellitus, deep vein thrombosis, fractures, and limb circumference more than 40 centimeters and smokers. The ease of application of tourniquet, intraoperative bloodless field and ease of removal was scored on a scale of 1-10. Patients were followed up at 2 weeks.

30 patients were randomized into group one with pneumatic tourniquet (average age 63.7) and 30 patients in group two with S-MARTTM tourniquet (average age 61.8). The average tourniquet placement time in-group one was 147.66 seconds as compared to 11.3 seconds in-group two (p value < 0.001 using unequal variance t-test). The mean ease of application scores was 4.30 in-group one as compared to 1.56 in-group two. Total tourniquet time was more in-group one. Intraoperative haemostasis was rated higher in-group two.

SMARTTM tourniquet provides a good intraoperative haemostasis and is easy to apply. The limitation is it cannot be reinflated and cannot be used in patients with fractures. S-MART tourniquet is a good for foot surgery, provides a good operative field, is easy to apply and saves precious theatre-time and resources.