

Use of WEREWOLF[®] FASTSEAL 6.0 Haemostasis Wand, a bipolar sealer (BPS), during total knee arthroplasty (TKA) significantly reduces blood loss compared to electrocautery (EC)¹

Epstein N. Poster presented at the Orthopaedic Research Society (ORS) Annual Meeting; February 7–11, 2025; Phoenix, Arizona, USA.

Background



BPS is an alternative to standard EC and has been shown to reduce blood loss in total hip arthroplasty (THA)²



WEREWOLF FASTSEAL 6.0 Haemostasis Wand combines saline and radiofrequency energy for an average peak temperature of 96±3°C*, approximately 200°C less than monopolar EC³⁻⁵



This study compared BPS, using the WEREWOLF FASTSEAL 6.0 Haemostasis Wand, with standard EC on blood loss after primary TKA in a hospital setting

Overview

Single surgeon, retrospective study of primary TKA performed without a tourniquet



Primary TKA
(n=123)



BPS group
(n=58)

EC group
(n=65)

Outcomes included:

- Blood loss (haemoglobin [Hgb]) at post-operative day one (POD1) and at discharge
- Allogeneic transfusions
- Length of stay (LOS)
- Pain scores (VAS)
- Peri-operative complications
- Readmissions

Results¹

The use of WEREWOLF FASTSEAL 6.0 Haemostasis Wand BPS TKA compared to EC TKA is associated with:

Significantly reduced blood loss (Hgb) at POD1
(2.07±0.76 vs 2.61±0.93 g/dL; p=0.001)



Significantly reduced total blood loss (Hgb) at discharge
(2.80±0.96 vs 3.30±1.10 g/dL; p=0.04)



Significantly lower need for blood transfusion
(2/58 vs 9/65 TKA procedures; p=0.04)



No difference in pain at POD1
(VAS scores: 6.4 vs 5.8; p=0.2)



No difference in LOS
(2.3 vs 2.4 days; p=0.3)



No difference in readmissions or peri-operative complications



Conclusion¹



Use of the WEREWOLF FASTSEAL 6.0 Haemostasis Wand during total knee arthroplasty, without a tourniquet, was associated with significantly reduced blood loss and significantly lower need for blood transfusion, compared with standard electrocautery.

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*One device tested 30 times.

Abbreviations: BPS = bipolar sealers; EC = electrocautery; Hgb = haemoglobin, IV = intravenously; LOS = length of stay; POD1 = post-operative day one; THA = total hip arthroplasty; TKA = total knee arthroplasty; VAS = visual analogue scale.

References

1. Epstein N. Bipolar sealer reduces blood loss in total knee arthroplasty (TKA) without tourniquet. Poster presented at the Orthopaedic Research Society (ORS) Annual Meeting; February 7–11, 2025; Phoenix, Arizona, USA. 2. Burney MU, Neumann JS. Prospective trial of bipolar sealer for reduction of intra-operative blood loss in total hip arthroplasty using the direct anterior hip approach. Poster presented at: Orthopaedic Research Society (ORS) Annual Meeting; February 2–6, 2024; Long Beach, CA. 3. Marulanda GA, Ulrich SD, Seyler TM, Delanois RE, Mont MA. Reductions in blood loss with a bipolar sealer in total hip arthroplasty. *Expert Rev Med Devices*. 2008;5(2):125–131. 4. Derman PB, Kamath AF, Lee GC. Saline-coupled bipolar sealing in revision total knee arthroplasty for infection. *Am J Orthop* (Belle Mead NJ). 2013;42(9):407–411. 5. Smith+Nephew 2021. Internal report. 110180-02 Rev A.