

## **Closed-incision negative pressure wound therapy after front limb amputation in dogs**

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**Introduction:** Closed-incision negative pressure wound therapy (ciNPWT) is a growing and promising technique in human plastic surgery, but is poorly documented so far in veterinary medicine. The aim of this prospective clinical study was to evaluate the effect of ciNPWT on postoperative complications and subcutaneous inflammation following front limb amputation in large breed dogs.

**Materials and methods:** Client-owned dogs weighing more than 20kg, presented for front limb amputation, were prospectively enrolled and randomly allocated to the control or ciNPWT group. The surgical incisions were clinically and ultrasonographically graded at bandage removal (3 days postoperatively), and 10 days postoperatively, to assess subcutaneous thickness and complications such as seroma formation. All data were compared between groups.

**Results:** Eleven dogs were included so far (6 control and 5 ciNPWT). At bandage removal, 5 dogs in the control group and 3 dogs in the ciNPWT group showed subcutaneous seroma. Surgical site infections did not occur. All mean ultrasonographic subcutaneous measurements were lower in the ciNPWT group than in the control group, but statistical significance was only reached for the middle aspect of the wound 3 days postoperatively ( $p = 0.019$ ).

**Conclusion:** This study did not manage to show advantages of ciNPWT that reached statistical significance, likely due to the small number of patients and the suboptimal surgical model. However, application of ciNPWT showed subjectively nicer surgical incisions and thinner subcutis postoperatively. More clinical studies with larger groups based on a more repeatable model are warranted to further explore the potential benefits of ciNPWT.