

# Prospects for debridement of chronic wounds using a dermatological curette



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## OBJECTIVE

To compare the microbiota of chronic wounds after cleansing with saline solution, debridement with tweezers and debridement with a dermatological curette.

## METHODS

An observational case series study was carried out in April 2025 at the Wound Clinic of the Midwestern State University in Guarapuava, Paraná, Brazil; 06 patients with chronic venous wounds participated in the study. The data was obtained as follows: 1) preparation of the slides; 2) patient consent; 3) collection of the samples by swabbing the wound bed and lower edge and depositing them on the slide; 4) staining of the slide; 5) analysis under an optical microscope with a 100 x objective in immersion oil. Samples were taken in one visit, at three different times: after cleaning with a jet of warm 0.9% saline solution (SS) using a 40x12 needle; debridement with anatomical tweezers; and debridement with a curette.

The variables analyzed were: epithelial cells (EC), leukocytes/granulocytes (GR) and microorganisms: BGN (gram-negative bacillus), BGP (gram-positive bacillus) and CGP (gram-positive cocci). The variables were quantified according to the table:

CE		GR		Microorganisms	
Quant/area	Rating in +	Quant/area	Rating in +	Quant/area	Rating in +
1	Rare	1 to 5	Rare	1 to 10	Rare
2 to 5	1	6 to 25	1	11 to 50	1
6 to 15	2	26 to 45	2	51 to 100	2
16 to 35	3	46 to 65	3	101 to 150	3
>than 35	4	>than 65	4	>than 150	4

The study was approved by the Institutional Review Board under protocol 7.273.593.

## RESULTS

The healing effect on the microbiota of the wound bed and lower edge, represented by BGN, BGP and CGP, in most cases, reduced the number of colonies and in 4 cases the microbiota was maintained. In one case, there was an increase in the number of colonies, following the collection order: SS, debridement with forceps and debridement with curette.

The study demonstrated the CE and the reduction of GR, with the exception of one patient who maintained the same classification in the three samples (1+).

The reasons attributed to the healing possibly refer to the eliminatory action due to the greater mechanical and cutting force exerted by the instrument, which removes a greater microbial load and inflammatory cells.

## CONCLUSION

The results show a reduction in microorganisms, BCP, BGN and CGP, both in the bed and on the lower edge of the wound. Curette debridement proved to be more efficient than SS and tweezers. However, there was also a decrease in epithelial cells and leukocytes/granulocytes.

Although the curette is indicated for debridement, it is rarely used in practice, so the study highlights the need to rethink its use and carry out further studies.

"I have no conflict of interest"

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