

# USAGE OF NEGATIVELY CHARGED POLYSTYRENE MICROSPHERES (NCM) PURSUING GRANULATION TISSUE PRODUCTION IN HARD-TO-HEAL WOUNDS TO ACHIEVE CLOSURE BY SKIN GRAFT.

Authors: Dr. Fady Hoyek, Head of Department of Orthopedic Surgery, University Hospital Center Notre Dame des Secours, Byblos-Lebanon;  
Andary Joseph, Expert Nurse in hard to heal wounds, University Hospital Center Notre Dame des Secours, Byblos-Lebanon.

## AIM

To describe the results of a new topical product based on Negatively Charged Polystyrene Microspheres (NCM) in three hard-to-heal wounds from different etiology by means of granulation tissue production in order to achieve closure by skin graft.

## MATERIALS AND METHODS

- Three cases, one with a diabetic foot ulcer (DFU) and the other 2 post-traumatic
- Infection management and debridement was carried out prior to treatment with NCM

### CASE 1

- 70 year old male
- Patient history: renal and peripheral vascular disease, DFU with a necrotic 1<sup>st</sup> toe which required amputation of 2<sup>nd</sup>-3<sup>rd</sup>-4<sup>th</sup>-5<sup>th</sup> toes
- Wound characteristics:
  - Post-surgical highly exudative and infected wound
  - Duration: 5 weeks



### CASE 2

- 48 year old male
- No relevant medical history
- Wound characteristics:
  - Post-traumatic wound (right leg open fracture)
  - Duration: 4 weeks.



### CASE 3

- 22 year old male
- Patient history: transmetatarsal amputation.
- Wound characteristics:
  - Post-traumatic wound (left foot)
  - Duration: 5 months.



## RESULTS

- At 4 weeks, all three cases had  $\geq 75\%$  granulation tissue to perform a closure by a skin graft.

## CONCLUSIONS

- Although the sample was small, it seems that the use of NCM rapidly produces healthy granulation tissue in post-traumatic wounds and hard-to-heal wounds, necessary to serve as a recipient bed for skin graft.
- The level of patient and healthcare professional satisfaction was optimal after using NCM.