

## Diabetic foot

A 49 year old male patient had complications on his right foot after amputation of a toe. The patient was a Diabetic Type I. In the same year (2006), not long before the amputation, the patient underwent heartsurgery for an obstructed artery. For this condition he uses drugs.

The patient is a heavy drinker with bad personal hygiene. The toe had to be amputated because of severe venous insufficiency. Pic. 1 shows the wound ( $\pm 7\text{cm} \times 2.5\text{cm}$ ) almost directly after the patient was discharged from hospital. The attending suggested to treat the wound with povidone iodine and an alginate dressing. In the first week post-op this was done, but the wound seemed to be in status quo. The nurse practitioner decided to switch to the honey based ointment. This was based on succesfull experiences in the past (debridement, moist wound environment and anti-bacterial properties to prevent infections).

**Product:** L-Mesitran® Ointment

**Case study done by:** F. Kegels, RN, home care, St Gillis Waas, Belgium.

### Method & Observations:

The ointment was applied with a sterile spatula directly on the wound surface and covered with an absorbing gauze. This was done daily and the wound progress was followed closely. The attending however kept insisting on using povidone iodine and alginates, which was followed occasionally, but this method showed every time that progress stagnated. Whereafter the nurse returned to the honey based treatment, which did provide progress in healing.

Despite the delays we see that in a period of 11 days (pic. 2-3) the wound debrided and after two months (pic. 4) the wound was reduced significantly in size ( $\pm 6\text{cm} \times 1.5\text{cm}$ , a reduction of 49%). Only 25% of the wound has yellow slough.

A month later (pic. 5) the wound reduced further ( $\pm 6\text{cm} \times 1\text{cm}$ , i.e. a 65% reduction compared to pic. 1) and in the majority of the wound surface epithelisation started. On the last photo (pic. 6) the wound is completely healed, save a small spot ( $0.4\text{cm} \times 0.2\text{cm}$ ).

### Conclusion

The wound on the foot after the toe amputation of this 49yr old diabetic had complications. The patient was recovering from heartsurgery and had venous insufficiency. The treatment with povidone iodine and alginates, as suggested by the attending, stagnated the debridement and wound healing. Povidone iodine is still being prescribed in many cases for wound treatment, however this is an antiseptic product with a short period of activity. It is a product that should only be used to disinfect a wound, not to heal (Burks, 1998). In every day practice the nurse practitioners are confronted regularly with povidone iodine prescrip-



tions for wound healing, even though it is known for a very long time that the use of high concentrations ( $> 1\%$ ) can be toxic for the wound (Van den Broek, 1982). Other (in vitro) studies show that povidone iodine, unless diluted to very low concentrations - lower than commercially available-, is toxic for all cells essential for wound healing (Burks, 1998). This necrotic wound, after amputation of the toe on the right foot, however healed completely without complications by using the honey based ointment daily. In this case, considering the underlying complex pathology, this was a succes.

### Declaration

This case study was done independently and with the full consent of the patient.

### References

Burks R (1998) Povidone-iodine solution in wound treatment. *Phys Ther.* 78: 212-218.1  
Van Den Broek P, Buys L, Van Furth R (1982) Interaction of povidone iodine compounds, phagocytic cells, and microorganisms. *Antimicrob Agents Chemother.* 22: 593-597