

KerraPro™ Pressure Reducing Pads in Preventing Pressure Ulceration

Lesley Weaving

Diabetes Lead Podiatrist – North West, Podiatry Services, Community Health Services Division, Leicestershire Partnership Trust, Coalville Community Hospital, Broomleys Rd, Coalville, LE67 4DE. lesley.weaving@leicspart.nhs.uk

Introduction

The prevalence rate of pressure ulcers in 2013 in the United Kingdom from a range of healthcare settings, including hospitals and community was 4.7%.¹ Pressure ulcers are localised injuries to the skin and/or underlying tissue usually over a bony prominence, as a result of pressure, or pressure in combination with shearing stress.² A number of intrinsic factors may contribute to the development of pressure ulcers, including increasing age, level of activity and mobility, poor oxygen perfusion, body weight, poor nutritional intake and dehydration, general health status and morbidities, e.g. diabetes. Extrinsic factors include pressure, friction, shearing, temperature, moisture and medication.³

This case study describes the management of 2 patients with recurrent skin breakdowns leading to ulceration. Patient 1 was a 45-year-old male lorry driver, who was overweight, but in good general health, and had suffered a back injury at work, which resulted in neuropathy in the lateral border of his left foot. Patient 2 was a 57-year-old male with well controlled type 2 diabetes who was in full time work, but had a neuroischaemic left foot.

Method

Patient 1 had a large neuropathic ulcer over the base of his left 5th metatarsal bone, which had healed with total contact casting, but once it was out of the cast it kept breaking down again, occasionally becoming infected (*Figure 1*), before healing again. He required fortnightly debridement to prevent reulceration and his insoles were altered by the orthotist to relieve pressure and prevent ulceration, but there was still some skin breakdown. The treatment plan was to use KerraPro (*Crawford Healthcare*) to protect the skin during the maturation phase of wound healing. KerraPro was applied to the area over the newly healed skin and kept in place with a blue line bandage (*Figure 2*).



Figure 1: (Patient 1)
Once out of cast, skin kept breaking down, occasionally becoming infected before healing again



Figure 2: (Patient 1) Applied KerraPro to newly healed area

Patient 2 had recurrent foot ulcers and osteomyelitis on the lateral aspect of his left foot for 3 years, requiring regular debridement. The skin had been intact but the patient was getting superficial breakdown of the newly healed area every 2 to 3 weeks (*Figure 3*). He had required previous surgery for osteomyelitis of his 5th metatarsal bone and had shoes from the orthotist and total contact insoles remodified due to his foot shape changing. The patient also had psoriasis, which increased the fragility of his skin. The treatment plan was to apply KerraPro to the area daily with blue line, to protect the newly healed skin and prevent the breakdown of skin and subsequent reulceration.



Figure 3: (Patient 2)
Superficial breakdown of the newly healed area every 2 to 3 weeks

Results

The skin of patient 1 was monitored regularly and at 8 and 16 weeks remained healed with no sign of extravasation within the tissues (*Figure 4*). The original KerraPro was also still intact with no split or wear even though the patient was weight bearing. KerraPro provided an extra layer of protection to a newly healed ulcer, which prevented skin breakdown. The patient found it easy to use, comfortable, and it reduced his time out of work to attend podiatry appointments.

For patient 2, at 12 week and 20 week follow-up visits, there was no further breakdown and the condition of the surrounding skin also showed improvement (*Figure 5*). This was the longest period in the last 3 years that he had not had an ulcer on the plantar aspect of his foot. He did find it quite difficult to secure KerraPro appropriately without any creases or folds, but once it was in place it remained in situ for the whole day. Initially, he left it on overnight which caused the skin to macerate slightly, but this did not reoccur once he was advised to remove it at night.



Figure 4: (Patient 1)
Skin remains healed for 8 weeks with no split or wear of KerraPro, even though patient weight bearing



Figure 5: (Patient 2)
No further breakdown and the condition of the surrounding skin also showed improvement

Discussion

It can take up to 2 years following injury for a healed wound to regain 80% of its original strength.⁴ KerraPro is able to redistribute pressure to protect the skin on bony prominences allowing this process of skin maturation to continue without further stress or injury to the newly healed area. KerraPro pressure reducing pads are made from 100% silicone, a material that is flexible and hard-wearing.

Conclusion

For both of these patients with recurrent skin breakdowns the use of KerraPro has helped protect skin prone to recurrent pressure ulcers and to remain healed for the longest period of time since initial ulceration. The condition of the surrounding skin has also improved and KerraPro remained intact despite the patients' weight bearing on the affected areas.

References

1. Health and Social Care Information Centre. NHS Safety Thermometer Report. June 2013 to June 2014
2. European Pressure Ulcer Advisory Panel and National Pressure Ulcer Advisory Panel. (2009) Treatment of pressure ulcers: Quick Reference Guide. Washington DC: National Pressure Ulcer Advisory Panel
3. Butcher M, Thompson G (2009) Dressings can prevent pressure ulcers: fact or fallacy? The problem of pressure ulcer prevention. *Wounds UK* 5(4): 80-93
4. Shai A, Maibach HI. Natural Course of Wound Repair Versus Impaired Healing in Chronic Skin Ulcers. In: *Wound Healing and Ulcers of the Skin*. Springer Berlin Heidelberg: 2005: 7-17