



Wounds International's clinical innovations section presents recent developments in wound care. This issue, we focus on innovations in wound management.

Implementing evidence-based leg ulcer care in an Azorean healthcare centre

Authors:

André Soares,
Patricia Pimentel,
Filipe Correia,
Diogo Borges,
José Duarte,
Sandra Silva

The Azores are a Portuguese territory and comprise nine volcanic islands situated in the North Atlantic Ocean. The largest and most populous island in this archipelago is São Miguel, which is famous for its beautiful lakes and green mountains.

For decades, leg ulcer care in the Azores was not evidence-based; community nurses focused their attentions exclusively on the wound instead

of the whole patient, ignoring the underlying cause. This situation led to inefficient, or even contradictory, practices and prolonged periods of ulceration.

Since 2008, Ponta Delgada Health Care Centre – which delivers care to 85 000 people, representing 33% of the Azorean population – has invested in training clinicians in the treatment of leg ulceration, as well as acquiring the materials for evidence-based care (dressings, bandages, and portable Dopplers). However, despite this investment, it was decided a new, innovative approach was needed.

In March 2012, a tissue viability team was formed, comprising two tissue viability nurses and a general practitioner. The team implemented a leg ulcer consultation in all 20 treatment rooms of the healthcare centre and 10 home care teams.

The objectives of the leg ulcer consultation were to effectively triage patients with leg ulceration; properly evaluate the patient concerning ulceration aetiology and factors that influence healing and quality of life; adequately implement an evidence-based plan of care according to patient evaluation; prompt referral of the patient for specialist intervention when required; and frequently reevaluate the patient and correct the plan of care when necessary.

Regular visits were made by the tissue viability nurses to the community nurses at each setting to offer advice and training in clinical practice. One community nurse was chosen in each healthcare setting as a 'reference nurse' to coordinate the leg

ulcer consultation. The integration of the general practitioner into the tissue viability team was essential to establish a referral protocol with the vascular surgery team of Ponta Delgada Hospital and to deliver medical care to patients with no access to GPs.

The reference nurses developed knowledge and skills in triage according to protocol, clinical and wound history taking, physical examination, ankle-brachial pressure index (ABPI) measurement, wound bed preparation, dressing selection, skin care, compression therapy, delivering patient education, referral to other healthcare professionals, recurrence prevention, and leg ulcer consultation outcome statistics.

Best practice protocol was based on the Riverside project in London^[1] and the guidelines of the Royal College of Nursing,^[2] Registered Nurses Association of Ontario,^[3] Scottish Intercollegiate Guidelines Network,^[4] Australian Wound Management Association,^[5] and numerous scientific papers. Although the role of tissue viability nursing is established in England and Australia, this consultation was the first experience of clinical supervision of leg ulcer care on a large scale in Portugal.

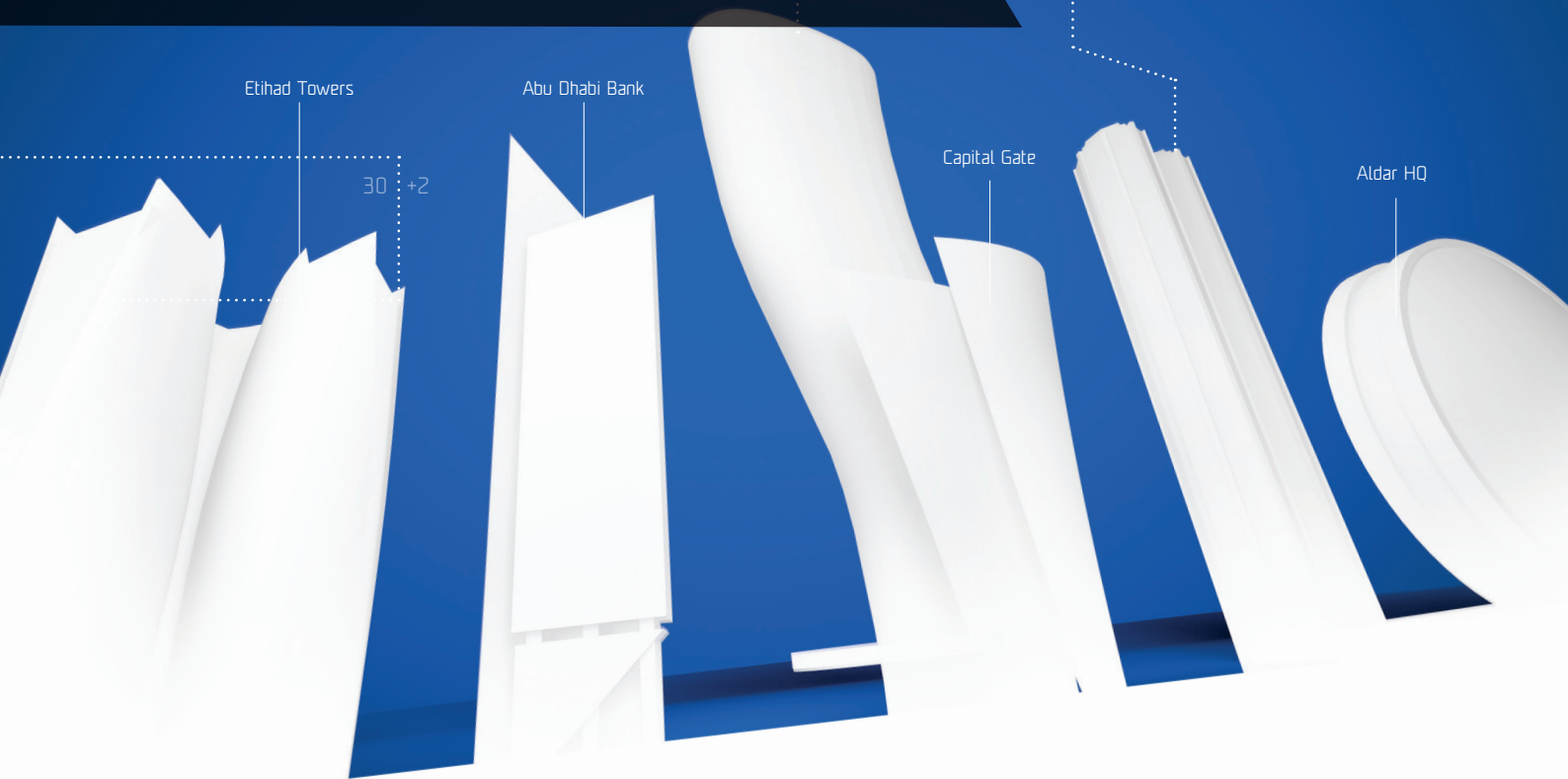
To evaluate the impact of the leg ulcer consultation supervised by the tissue viability team, a descriptive and retrospective study was performed, pre- and post-implementation.

In this study, leg ulceration was defined as all ulcers occurring between the ankle and the knee, and present for 4 weeks or longer. The reference nurses completed a questionnaire for each patient identified. The annual treatment cost per patient was calculated by adding the nursing time and dressing cost from the previous treatment and multiplying it by dressing change frequency per week and then by 52 to find the annual total. Incidence and healing rate was calculated by consulting clinical records of the previous year. After 1 year, results of the previous treatment regimen and the new one were compared.

RESULTS

In the initial study, 78 patients were identified (35.9% male; mean age, 70.9 years). Bilateral ulceration was present in 10.3% ($n=10$) of these patients. In the post-implementation study, 55 patients were treated in the health centre (29.1% male; mean age, 72.7 years). This represented a reduction in leg ulceration of 29%. Bilateral ulceration reduced to only 3.6% ($n=2$) a year after

Wounds International Middle East Conference



Further details at
www.woundsinternational.com

THE LANDSCAPE IS CHANGING

Abu Dhabi 2014

Wounds International are proud to announce our first 2-day annual conference for the Middle East region. Looking at aspects of clinical, practical and service delivery, this conference will provide a truly unique learning experience for all practitioners engaged in wound healing across the Middle East.

5th and 6th June 2014

Rosewood Hotel, Sowwah Square, Al Maryah Island,
Abu Dhabi, United Arab Emirates



www.woundsinternational.com

implementation of the leg ulcer consultation. By contrast, the leg ulcer incidence increased by 28.2% from 1.27/1 000 ($n=106$) in 2011 to 1.77/1 000 in 2012 ($n=147$).

Although the ABPI is pivotal in determining ulcer aetiology,^[6] it was performed only in 6.9% ($n=6$) of patients prior to the implementation of the leg ulcer consultation. After implementation, the percentage of patients with ABPI evaluations performed rose to 66.7% ($n=38$). The percentage of undiagnosed leg ulceration dropped from 39.6% ($n=34$) to 12.3% ($n=7$). The largest increase in aetiology was found in arterial (2.3% to 14%) and mixed ulceration (5.8 to 10.5%). Venous ulceration diagnosis showed little difference (51.2% to 52.6%) between both studies.

Prior to the implementation, only 52.5% ($n=21$) of venous ulcers benefited from compression therapy. After 1 year, the percentage rose to 96.7% ($n=29$). Regarding referral, the percentage of arterial and mixed ulcers referred to the vascular team rose from 28.6% ($n=2$) to 100% ($n=13$). The referral of patients with venous ulcers of at least 24 weeks' duration rose from 75.0% ($n=18$) to 93.8% ($n=15$).

Before the implementation of the project, dressing change and wound cleansing were carried out using sterile tweezers and saline solution, with great implications on cost but no impact on healing. So, as part of the new project – and as supported by a Cochrane review^[7] and other clinical guidelines^[4–5] – a clean, rather than sterile, technique was adopted using tap water.

Given the Royal College of Nursing advice that leg ulcer dressings should be “low cost, simple to reduce risk of contact sensitivity and low, or non-adherent”^[2] the use of alginate and non-adherent gauze became the first choice of treatment as part of the new project. Likewise, highly absorbent and expensive dressings containing carboxymethylcellulose or polyurethane were used only in highly exuding wounds.

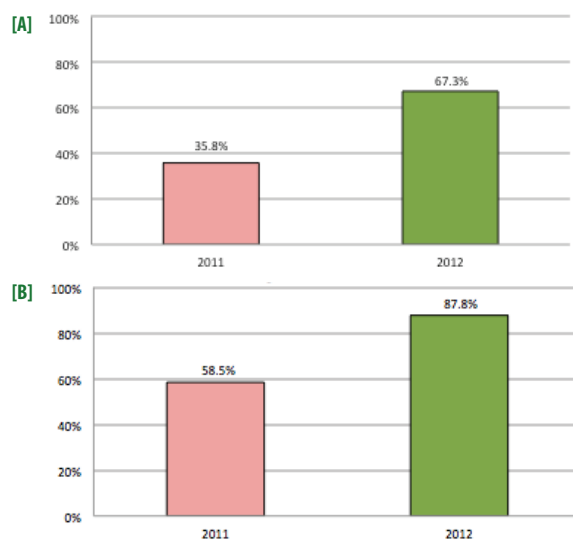


Figure 1. Leg ulcer healing rates at [A] 12 and [B] 24 weeks for 2011 and 2012.

Antimicrobials were used only when clinical signs of local infection were present.

These measures reduced the frequency of dressing change (average of 2.76 to 2.35 dressing changes per patients per week) resulted in the reduction of treatment cost per patient per year from €1 143.93 to €777.50. Associated with the reduction of leg ulceration, the total cost of treatment of all patients reduced by nearly half (€86 787.18 to €43 402.99).

Related to the efficacy of the treatment, healing rate at 12 weeks increased from 35.8% (38/106) in 2011 to 67.3% (99/147) in 2012, and at 24 weeks increased from 58.5% (62/106) in 2011 to 87.8% (137/147) in 2012 [Figure 1].

DISCUSSION

The implementation of the leg ulcer consultation supervised by the tissue viability team proved to be an invaluable strategy in improving outcomes and reducing costs at the Ponta Delgada Health Care Centre. The positive results motivated the Azorean health secretary to authorise the dissemination of the leg ulcer consultation to all São Miguel healthcare centres, servicing some 137 830 people. It will be the first time a group of healthcare centres in Portugal will deliver a coordinated answer to the problem of leg ulcers.

The increase in leg ulcer incidence can be explained by the improvement of quality of care delivered that might have motivated leg ulcer patients to choose being treated in the healthcare centre rather than self-care or a private institution. Nevertheless, now that treatment protocols have been standardised and improved, the focus needs to be on implementing optimum prevention strategies, particularly for those patients at risk of recurrence. ■

AUTHOR DETAILS

André Soares, Patricia Pimentel and Filipe Correia are Tissue Viability Nurses; Diogo Borges and José Duarte are GPs; Sandra Silva is Tissue Viability Coordinator and Community Nursing Specialist. All are based at Ponta Delgada Health Care Centre, Ponta Delgada, Portugal.

REFERENCES

- Moffatt CJ, Martin R, Smithdale R (2007) *Leg Ulcer Management – Essential Clinical Skills for Nurses*. Blackwell, Oxford
- Royal College of Nursing (2006) *Clinical Practice Guidelines. The Management of Patients with Venous Leg Ulcers*. RCN, London
- Registered Nurses Association of Ontario (2004) *Nurse Best Practice Guidelines. Assessment and Management of Venous Leg Ulcers*. RNAO, Toronto, ON
- Scottish Intercollegiate Guidelines Network (2011) *Management of Chronic Venous Leg Ulcers. A National Clinical Guideline*. SIGN, Edinburgh
- Australian Wound Management Association & New Zealand Wound Care Society (2011) *Clinical Practice Guideline for Prevention and Management of Venous Leg Ulcers*. AWMA, Sydney, NSW
- Wounds International (2013) *Principles of Compression in Venous Disease: A Practitioner's Guide to Treatment and Prevention of Venous Leg Ulcers*. WI, London
- Fernandez R, Griffiths R (2008) Water for wound cleansing. *Cochrane Database Syst Rev* (1): CD003861