

Best practice statement leg ulceration pathway: revision required to reflect new evidence

KEY WORDS

- » Algorithm
- » Best Practice Statement
- » Clinical pathway
- » Leg ulceration
- » Lower limb
- » Patient assessment

In 2016, the authors of this article designed an algorithm to aid the diagnosis of venous leg ulcers and use of compression hosiery kits as a first-line management for venous leg ulceration. Its implementation ensures patient safety, improves patient experience, releases nursing time and increases the effectiveness of care, which is why it was adopted and included in the Best Practice Statement for Venous Ulceration (Wounds UK, 2016). To make sure that the algorithm is in line with the most recent evidence, enabling that all patients are provided with the best opportunity of healing, the authors have updated the algorithm, as outlined here.

In recent years, the variations in outcomes of patients with lower limb ulceration across the nation have been highlighted. National initiatives such as the Legs Matter campaign (Legs Matter, 2018) and Betty's Story (NHS RightCare, 2017) continue to attempt to draw attention and interest to the need to ensure patients can access high-quality, evidence-based care, helping to raise public and political awareness of this debilitating condition. NHS England has made promises to provide a national wound care strategy with a clear focus on lower limb ulceration. This is very much welcomed as it will hopefully continue to force improvements in this area.

In 2016, the authors detailed that the implementation of a pathway for the treatment of leg ulceration, which aids diagnosis and uses compression hosiery kits as a first line, could improve the patient experience, release nursing time and ensure effectiveness of care (Atkin and Tickle, 2016). This algorithm was adopted and included in the Best Practice Statement for Venous Ulceration (Wounds UK, 2016).

One of the key drivers of producing the compression algorithm was to ensure that research evidence was adopted within front-line services. This included evidence relating to the use of compression hosiery kits, as an option to supply full-strength therapeutic compression of 40mmHg at the ankle to manage patients with venous

ulceration. Ashby et al's (2014) study showed that compression hosiery kits are as effective at healing patients with venous ulceration as 4-layer bandaging, but compression hosiery kits did have added advantages over compression bandaging, including reductions in cost and a decreased risk of recurrence. The adoption of this research evidence was relatively slow but the inclusion of this into the algorithm helped to raise awareness of this evidence-based approach. The algorithm also included the prompt to consider referral to vascular services once the patient had healed, to reduce the risk of recurrence, as it was proven that intervention to the venous system helped prevent the risk of recurrence (Barwell et al, 2004); even though this approach is highlighted within National Institute for Health and Care Excellence guidelines (NICE, 2013), the awareness of this requirement was not well known to community practitioners who provide the care for the majority of patients with lower limb ulceration (Guest et al, 2017a).

However, with all aspects of medicine and nursing management, the evidence base can change. There is now evidence that supports the concept that earlier endovenous intervention not only reduces the rate of recurrence but will also shorten the time to healing (Gohel et al, 2018). This article will outline details of the new evidence and present a revised version of the compression algorithm, which incorporates this change.

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LEG ULCERATION BURDEN AND ISSUES

It is estimated that 730,000 patients suffer from lower limb ulceration: this equates to 1.5% of the adult population within the UK (Guest et al, 2015) and the cost to the NHS associated with the management of these patients is estimated to be between around £600 million and £1.94 billion every year (Healthcare Commission, 2004; Guest et al, 2017b). The number of patients with lower limb ulceration is thought to be on the rise due to the ageing population, which will result in an increased burden on resources (Atkin and Tickle, 2016). NHS England (2017) have highlighted that for many the management of patients with lower leg ulceration is sub-optimal, with unwanted variations increasing cost and lengthening healing times. Atkin and Critchley (2017) identified factors which, if addressed, could reduce costs and service demands but also improve quality of care and patient outcomes. These included: need for assessment, requirement of timely ABPI, the requirement of formal diagnosis related to underlying cause, the underuse of compression therapy, and the variation of compression selection.

LEG ULCER PATHWAY

Formalised evidence-based pathways can help reduce unwanted variations, as standardising clinical processes through the use of pathways is known to optimise the quality of treatment and improve patient satisfaction (Hensen et al, 2005). The leg ulcer pathway published by Atkin and Tickle (2016) provides a simple algorithm for the practitioner that is underpinned by clinical evidence and international consensus, aiming to assist practitioners with the best management of patients with lower limb ulceration. This algorithm has been shown to provide clinical, cost and service benefits — with examples of improvements nationally.

EARLY ENDOVENOUS ABLATION IN VENOUS ULCERATION (EVRA) RANDOMISED CONTROL TRIAL

Gohel et al (2018) recently published the results of a randomised control trial (RCT) investigating the impact of early venous ablations in patients with venous ulceration, commonly referred to as EVRA. This research, which was funded by the National Institute of Health and Research Health Technology (NIHR), included 450 patients from 20 vascular

centres who were randomly assigned to receive compression therapy and early endovenous ablation of their confirmed superficial venous reflux within two weeks of randomisation (early intervention group) or treated with compression therapy alone with consideration of endovenous ablation once the ulcer had healed or if the ulcer was still active at 6 months post randomisation (deferred intervention group). The primary outcome of the study was time to healing, with secondary outcomes of the rate of ulcer healing at 24 weeks, rate of ulcer recurrence, length of ulcer-free time and patient reported health-related quality of life. The results of the trial showed that time to healing in the early intervention arm was significantly reduced compared to the deferred intervention group ($p=0.001$) with a median time to healing reduced from 82 days to 56 days. Ulcer healing rate at 24 weeks was 85.6% in the early intervention group and 76.3% in the deferred intervention group. There was also reported improvement with early intervention in ulcer-free time. They concluded that early venous intervention resulted in faster healing of venous ulcers and more time free from ulceration than deferred intervention.

VENOUS INTERVENTION

Compression therapy is known to improve venous ulcer healing (O'Meara et al, 2012) but it is important to remember that compression does not treat the underlying cause of venous hypertension — incompetent valves within the superficial or deep venous system. In a way, compression can be considered to be a palliative treatment, in terms of reducing the affect and lower the high pressures in the venous system but will never cure the patient. Hence, the requirement of life-long compression to reduce the risk of recurrence (Nelson and Bell-Syer, 2014). Furthermore, the treatment of superficial venous reflux has been shown to reduce the rate of ulcer recurrence from 28% at 1 year to 12% ($p<0.0001$) (Barwell et al, 2004).

Superficial venous intervention has changed dramatically over the years; very few patients now undergo general anaesthetic for high tie and avulsions of their veins, instead, where possible, vascular centres use minimally invasive techniques which can be performed under day case local anaesthetic. These include the use of radio frequency, laser or foam. The majority of patients, no matter

what their anaesthetic risk, are suitable for such minimally invasive procedures.

NOT A SOLUTION FOR ALL

All patients require assessment for superficial venous incompetence to aid ulcer healing (EVRA) and prevent the risk of recurrence (ESCHAR). However, endovenous intervention may not be suitable for all patients; there needs to be consideration by the vascular team but there are occasions where the vessels are too tortuous or too large to undergo these new minimal invasive procedures (Zimmet, 2007; Florescu et al, 2016). Additionally, the patients may decline the offer of surgery, but this decision needs to be made following careful counselling of risk and benefits on an individual patient basis.

Additionally, there are a number of patients who may not have superficial venous incompetence but are still showing signs of functional venous insufficiency, in terms of oedema and skin changes/ulceration. This could be caused by either incompetence of the deep venous system or by failure of the foot/calf muscle pump. But this can only be determined following vascular review and venous imaging (venous duplex or MRV).

COMPRESSION REMAINS KEY

It is vital that whilst this new evidence is incorporated into guidelines it does not add layers of delay for patients receiving compression therapy. The requirement and evidence for compression in aiding venous ulcer healing remain the same; patients need assessment of the need and suitability of compression at the earliest opportunity. Compression therapy is vital to improve healing rates but also to manage

the patient's symptoms, as compression will help control exudate, reduce limb volume, reduce venous hypertension — and all of these aspects are required to optimise ulcer healing. Therefore, the new algorithm highlights the need for venous assessment (*Figure 1*) but also points out that this should not delay the commencement of compression therapy.

CONCLUSION

The implementation of this algorithm into everyday clinical practice has been shown to deliver a number of benefits including increased healing rates, improved documentation and a reduction in nursing visits. Ensuring that this in line with the most recent evidence will ensure that all patients are provided with the best opportunity of healing. Services need to explore whether these changes can be incorporated into their clinical services, however; this may introduce significant challenges in places where there are restrictions in place in terms of commissioning. However, to ensure practitioners are providing the highest quality care, finding solutions to these challenges is essential. Every patient deserves access to a holistic assessment performed by skilled, knowledgeable clinicians who are aware of the most recent evidence base and hopefully this algorithm will provide an easy, clear structure of how this can be achieved. Standardising ways of working through the use of algorithms, which are evidence-based, forms part of the solution of modernising the NHS services, helping to eliminate unwanted variation and ensuring that the right care at the right time is provided for all, as this will help the futureproofing of the NHS against the ageing population and challenges in terms of funding and staffing.

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Figure 1. Updated leg ulcer treatment algorithm

