Within community healthcare services there is an ongoing drive to improve clinical efficiency and cost-effectiveness while simultaneously providing high quality evidence-based care (NHS England, 2014).

Ensuring this strategy is delivered is at times problematic, particularly as community services are currently faced with rising registered nurse vacancies with trusts becoming increasingly dependent on agency and temporary staffing to fill these posts (Royal College of Nursing [RCN], 2015). This brings challenges around training and levels of competency among these nurses.

Compression bandaging is one of the nursing skills that requires additional training and competency assessment, however, agency nurses in particular — being a transient workforce — do not usually attend trust leg ulcer courses and often do not remain in areas long enough to complete the required training and competency assessment.

THE PROJECT

Research has repeatedly shown that nurses’ compression bandaging skills can be poor. These skills can be improved with training but this tends to be a short-term gain with little evidence to suggest it leads to a long-term improvement in compression bandaging competence (Nelson et al, 1995; Taylor et al, 1998; Reynolds, 1999; Partsch and Mortimer, 2015).

With this in mind, the tissue viability team in the authors’ locality wanted to develop a safer and more manageable approach to treating venous leg ulcers than traditional compression bandaging. The decision was taken to trial the use of the juxtacures® (medi UK) product range, partly as it offers a cost-effective solution to managing venous leg ulceration and chronic oedema (Elvin, 2015) (see box on following page for details of the range).

Aims

The aims of the project were to reduce the amount and duration of community nursing visits spent dealing with venous leg ulcer patients while still ensuring that safe, effective and accurate compression therapy was delivered. It was also hoped that the project would enable patients who wanted to self-care to do so safely with reduced nursing support and regular wound reviews.

The team also wanted the project to improve shared care in the locality, with mobile patients more able to access practice nursing services, hopefully resulting in improved patient outcomes and a reduction in treatment costs and nursing time. At the time of writing, not all practice nurses in the authors’ locality provided compression therapy due to competency issues and time restraints, therefore non-housebound patients were often referred to the community nursing team for treatment.

Implementation

In April 2015 the authors’ tissue viability service introduced juxtacures for the treatment of venous leg ulcers; juxtalite® (medi UK) for the maintenance and prevention of reoccurrence of ulceration; and juxtafit® (medi UK)
for the management of chronic oedema (Freeman, 2015). This system was chosen for an initial pilot project after reading of the success of Elvin’s (2015) work on lower limb problems using the same system.

This project required the development of a new treatment pathway for leg ulcer management (Figure 1). The community nursing teams were struggling with high nurse vacancies and a heavy reliance on agency nurses, which meant that permanent nurses were often too busy with day-to-day caseload management to attend leg ulcer training courses. As a result, there were a limited number of nurses with adequate compression bandaging skills leading to an increase in reports of bandage trauma from poorly applied compression bandages.

Following on from the success of the initial project in April 2015, which used patient case studies to show that the introduction of juxtacures could reduce nursing appointments and product spend, the tissue viability service introduced the new treatment pathway to the local community nursing teams. The patients seen were those who had been referred to the tissue viability complex wound clinic.

The community nursing team caseload consisted of 490 patients, with 22% of these requiring visits for lower limb management, including venous leg ulcers, chronic oedema or wounds without a current differential diagnosis (for example, lower limb wounds incorrectly labelled as skin tears or trauma wounds where the patient had not received a holistic assessment to identify the underlying aetiology).

The community nursing caseload holder reviewed and identified appropriate patients for the project using the inclusion criteria (Table 1).

### Table 1: Inclusion criteria for the study

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability to self-care or has carers</td>
<td>Mobile and/or desires to wear own footwear</td>
</tr>
<tr>
<td>Presence of oedema</td>
<td>No oedema or mild-to-moderate oedema</td>
</tr>
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</tr>
</tbody>
</table>

The patients received a full holistic assessment and those who met the criteria were fitted with an adjustable Velcro compression device.

During the seven-week project, a total of 16 patients were fitted with a device from the juxtacures product range. After the initial fitting and assessment, the patients were referred back to their local community nursing team for ongoing management. All of the community nursing teams received training on how to measure, fit and apply the adjustable Velcro compression devices before the start of the project. This training incorporated three training sessions including patient selection, measuring, fitting and troubleshooting. The tissue viability team delivered these sessions with support from a member of the medi clinical team.

### Nursing skills

The juxtacures product range is a relatively new innovation and the concept is very different to traditional methods of managing venous leg ulcers. The community nurses had never used these devices before and initially struggled to change their practice, for instance some would simply revert back to using bandages if they encountered any difficulties rather than reviewing the new system. In the first few days after application, the devices often needed to be adjusted to fit the changing limb size as the patient’s oedema reduced.

This kind of resistance to change is not uncommon, however, and it was
a more in-depth training schedule and worked alongside the medi clinical team to train and support the nurses in using the product range throughout the project.

Launch
Once the project launched, the community nurses were each accompanied by a member of the medi clinical team for their initial visit to measure and fit the device, as well as on their first follow-up appointment. After these initial appointments, the community nurses continued to manage the patients independently. During the project,

Curtis and White (2002) recommended that ownership and inclusion are one of the best methods to overcome resistance to change and a solution was arrived at whereby instead of the tissue viability nurses in the complex wound clinic measuring and fitting the adjustable Velcro compression devices initially, this task would be given to the community nurses. It was hoped that involving the community nurses in the early stages of the project would help them recognise the need for change and led them to accept the project. It was also decided to focus on one community nursing team at a time — once one team was familiar with the techniques involved, the project would move on to another team.

The tissue viability nurses were charged with acting as change agents and given the task of guiding the community nursing teams through the project, as well as providing support and advice (Jones, 2007). The tissue viability service developed important to understand the nurses’ anxieties and explain how these could be resolved to move forward with the project (Wright, 2010).

**Figure 1.**
The new treatment pathway.

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Key:
- IPC: intermittent pneumatic compression
- FLB: four-layer bandage
- MIST: ultrasound therapy
the nurses were asked to collect simple information regarding visit schedules (nurses collected data on how often they visited patients, how many times patients called in for extra visits and how long the face-to-face contact time was) and patient comfort. This data was collected on the initial visit, at week four, and either upon discharge or on completion of the treatment. Patients were asked the following comfort-related questions:

- Whether the garment was comfortable
- Whether the device was more comfortable than previous systems
- Whether the patient’s mobility had improved.

Results
Of the 16 patients fitted with juxtacures, only nine sets of data were returned and available for analysis. Two of the nine patients were subsequently discharged from the project and the district nursing caseload completely, as they were able to manage the adjustable Velcro compression devices independently. Before the project, these patients had been unable to manage compression hosiery to prevent recurrence of venous leg ulcers and as a result had been managed in bandages with weekly visits from the community nursing team.

However, despite the limited amount of data, the results that were collected during the project were very positive. Six of the nine patients found the devices comfortable and were keen to continue with the treatment. Of the remaining three patients, one returned to using bandages as they were not able to wash and care for the adjustable Velcro compression device when it became soiled, while two others asked to be returned to their previous regimens. One of these was wearing compression hosiery before using the adjustable Velcro compression devices and was able to manage this independently; the second was a patient with dorsum oedema who was unable to adjust the device and had no carer to assist and therefore did not fit the inclusion criteria set out in Table 1. These patients should not have been included in the project from the beginning — the caseload holders at the time were under enormous pressure and at times the inclusion criteria were not strictly followed.

During the project there was an overall reduction in nursing visits by seven per week across all nine patients. The average visit time for a patient with a adjustable Velcro compression device was also reduced to 19 minutes from the average of 40 minutes that visits had previously taken with bandages (as documented in patients’ electronic medical records). By converting even a small group of patients from traditional bandaging methods, an estimated four hours and 40 minutes of nursing time was saved per week.

Overall, with the assistance of...
carers, patients were able to adjust the devices independently and remain in the devices for long-term management.

**DISCUSSION**

**Issues encountered during the project**

This project was set up to discover if a therapeutic level of compression could be applied accurately and safely by a trained community nurse using a new system of adjustable Velcro compression devices. During the project a number of obstacles were identified. High workload and reduced nursing staff meant that even the task of identifying patients for the project was a strain on the caseload manager. This led to poor patient selection and the temptation to quickly switch patients back to compression bandages. Furthermore, the nurse tasked with leading the project left during the data collection period, resulting in difficulty in obtaining all the information.

Also, although this project was introduced to reduce the time community nurses were spending treating venous leg ulcers, it was set-up during a period of heightened staffing and resource pressures, which made the process harder to manage.

**Project findings**

Despite these issues and albeit with a small sample, the project demonstrated a significant time saving in nurse visits, with two patients (of the six who completed the project) successfully discharged to self-manage their condition. The remaining four patients continued to be treated by the community nursing team with the adjustable Velcro compression device as their primary compression therapy system. Using the juxtacures product range, nurses were able to empower patients to take control of their treatment while improving patient outcomes and reducing costs (Elvin, 2015).

This project also offered local practice nurses training and education in alternative ways of delivering compression therapy. Due to the lack of practice nurses who were competent in compression bandages, as well as introducing the devices into the community wound care service, it was also thought prudent to include practice nurses in the roll-out. Practice nurses often work in isolation and are not always able to attend venous leg ulcer treatment updates. As a result, they do not always possess the up-to-date knowledge and skills to manage these patients (Weller and Evans, 2012). The authors felt that the juxtacures range offered a solution to this, being simple to apply with the built-in pressure system allowing the nurse to accurately monitor the level of compression being applied to the limb to ensure a therapeutic level was maintained (Elvin, 2015).

**CONCLUSION**

The success of this project has led to further plans to introduce the juxtacures product range to another large community nursing team. This team has fewer nursing vacancies and any agency nurses are employed on a semi-permanent basis, hopefully meaning that there will be more continuity in the project and that the pressures of patient selection and nurse training will be reduced.

In the future, the task of training the service’s nurses — in particular agency staff — and assessing their competency to apply compression therapy will continue. The authors’ team always try to look for ways to provide education and training, not only to improve patient outcomes and ensure local guidelines are adhered to, but also to invest in agency nurses to demonstrate that the service values its staff. It is hoped that investing in agency nurses in this way may lead to them becoming permanent members of the community nursing team at some point.

Following this project, it is hoped that the service will see improved healing rates and concordance with compression therapy at the same time as empowering those patients and their carers who want to self-manage their compression therapy. This should result in cost savings as well as freeing-up nurse time. If these outcomes are achieved, as they were in this project, the tissue viability service can make a business case to introduce the juxtacures range as a first-line treatment for venous leg ulcers and chronic oedema.

**REFERENCES**


