Leg ulceration in drug users: development of a multidisciplinary care pathway

Individuals with a history of intravenous (IV) drug abuse can develop a degree of venous insufficiency either through the damage of veins from the injection, or the formation of deep vein thrombosis (DVT), a complication of IV drug abuse. Long-term venous insufficiency can result in painful lower limb ulceration that can negatively effect quality of life. This patient group can be challenging to manage due to problems with engagement and concordance; patients often have chaotic lifestyles with a range of health needs. A care pathway was developed to promote healing through the implementation of the well-being model and utilisation of the multidisciplinary team.

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KEY WORDS
Leg ulceration
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Well-being model
Care pathway
Multidisciplinary working

Leg ulceration is a chronic condition affecting approximately 1–2 % of the population (Nelzen et al, 1991; Briggs and Closs, 2003; Graham et al, 2003; Vowden and Vowden, 2009), with venous leg ulceration being the most prevalent of chronic wounds in the Western world, accounting for 45–60% of all chronic leg ulcers (Mekkes et al, 2003). Leg ulceration imposes a significant financial burden on the NHS. It is estimated that on any day between 70,000 and 190,000 people may have an active leg ulcer in the UK, with the total annual cost of treatment lying between £168 and £198 million (Posnett and Franks, 2007). The cost to the NHS of caring for patients with a chronic wound is conservatively estimated at £2.3bn–3.1bn per year (at 2005–2006 costs), around 3% of the total estimated expenditure on health (£89.4bn) for the same period (Posnett and Franks, 2007).

Patients with a history of IV drug use have many risk factors for developing chronic venous insufficiency due to damage of superficial veins through repeated trauma and thrombophlebitis.

The population most commonly affected by leg ulceration are those aged over 65 (3–5% in population over 65 years of age) (Mekkes et al, 2003). In addition, leg ulceration is known to be a consequence of intravenous (IV) drug use. Most drug users in the UK are young people aged 15–44 years (Finnie and Nicholson, 2003). The Department of Health (DH, 2007) stated that the United Kingdom(UK) has among the highest rates of recorded illegal drug misuse in the western world, and identify Scotland and England as having higher rates than Wales and Northern Island. The true extent of injecting drug use in the UK remains uncertain (Health Protection Agency [HPA], 2009), with a recent national estimate for England suggesting that there were around 117,000 injectors of heroin or crack cocaine in 2006 (0.34% of those aged 15–64) (Hay et al, 2008). While other studies (Hickman et al, 2004; De Angelis et al, 2009) have suggested that the total number of IV drug users in England may be much higher, the most recent publication from the National Treatment Agency (2010) has reported that the number of IV heroin users in England has fallen by almost 11,000, an encouraging trend.

Patients with a history of IV drug use have many risk factors for developing chronic venous insufficiency due to damage of superficial veins through repeated trauma and thrombophlebitis. In addition, deep venous damage can occur as a result of deep vein thrombosis (DVT). Pieper and Templin (2001) identified DVT as being a common occurrence in IV drug users, and also reported that 87% of patients in a methadone treatment programme were found to have evidence of chronic venous insufficiency. It has been recognised that chronic venous insufficiency and subsequent venous hypertension are the main causative factors for the development of venous ulceration, (Mekkes et al, 2003; Anderson, 2008; O'Meara et al, 2009).

In addition to venous insufficiency, skin problems can be the result of

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injection behaviour, the quality, solvency and cleanliness of drugs, the equipment and the environment (Finnie and Nicolson, 2002). When venous access becomes a problem due to superficial veins becoming thrombosed, many users resort to skin popping, which is where the substance is deposited under the skin and absorbed by the subcutaneous tissue (Finnie and Nicolson, 2002). This approach can lead to abscess formation, infection and frequent scaring (Finnie and Nicolson, 2002). Around one-third of users report an injection-related abscess, sore or open wound within a one-year period (Health Protection Agency [HPA], 2009). This is not surprising as heroin is not a sterile drug, but is often mixed with citric acid, which, if over used, can contribute to acid burns either within the vessels or the subcutaneous tissues leading to cell death and necrosis (Finnie and Nicolson, 2003). Moreover, heroin is often produced in filthy conditions and injected in unhygienic circumstances (Finnie and Nicolson, 2003). Harm reduction initiatives, including needle exchange programmes, safer injection facilities and provision of mixing powers can reduce the incidence of infections among IV drug users (Bassetti and Battegay, 2004; Roden, 2009).

Drug users have a wider range of health problems (Neale, 2004) and a higher rate of mental health disorders than the general population. Weaver et al (2002) identified that in the UK, 75% of users of drug services experienced mental health problems, the most common of these being depression and anxiety disorders. Furthermore, Gossop et al (2002) maintained that the annual mortality rate among users in treatment in the UK was about six times higher than that for a general, age-matched population.

Often dependency to a substance dominates patients' lives and can place an enormous strain on their family, including their children. This can have a serious negative impact on the long-term health and well-being of family members (DH, 2007). The 'Hidden Harm' report published by the Advisory Council on the Misuse of Drugs (ACMD, 2003) estimated that there were between 250,000 and 350,000 children of problem drug misusers in the UK. The report stated that parental problem drug misuse can and does cause serious harm to children at every age, and that reducing harm to children from parental problem drug misuse should become a main objective of policy and practice. It concluded that effective treatment of the parent can have major benefits for the child, while also improving the quality of life for families and carers.

Treatments programmes must be tailored not only to treat the venous leg ulcer, but also to improve general and mental health and improve long-term outcomes both for the individual and the family.

Treatment programmes

Treatments programmes for IV drug abusers suffering with venous leg ulcers should be tailored both to treat the ulcer and their general and mental health, thereby improving long-term outcomes for both the individual and their family. Wound drop-in centres have been developed to target homeless patients and/or patients with a history of drug dependency; these have been proven to be successful in terms of wound healing and improving access to services (Finnie and Nicholson, 2002). However, these services are often provided by nurses whose main area of speciality is wound management, rather than substance misuse. Within Wakefield Integrated Substance Misuse Service (WISMS), a new model of working has been implemented based around the well-being model, where service users work with registered general nurses and registered mental health nurses, who coordinate their often complex management programme and work in collaboration with many other services. The well-being model incorporates all aspects of health and well-being.

Role of well-being nurses

Well-being nurses are ideally placed to ensure that opportunities are not missed to initiate healthcare interventions. These include treatment of acute episodes of illness, immunisations, counselling, blood virus testing, health promotion, harm reduction initiatives and safer injection techniques. It is also important to remember that the drug user population are at risk from all diseases (DH, 2007) and should be included in health screening programmes and health assessments. However, due to their often chaotic lifestyles, users can have difficulty in remembering and accessing services such as cervical screening (McKnight et al, 2006).

In the authors' experience, well-being nurses are able to provide counselling, brief interventions, solution-focused therapy, motivational interviewing, cognitive behavioural therapy (CBT), and psychosocial interventions to increase motivation and prevent relapse. They also help in addressing social problems including family issues, housing and employment. This is all with the aim of forming relationships, improving concordance and changing behaviours.

Holistically, they manage every aspect of their clients' needs in collaboration with many other services. The integration of well-being nurses into the management of IV drug users at WISMS has ensured that the care of leg ulceration is not overlooked or seen as a separate entity, where the patient would have to make separate appointments to see a health practitioner who specialised in that area. Before the introduction of the new care pathway, the well-being nurses had been experiencing difficulties in accessing or providing this specialist area of care, as they felt inadequately skilled to provide leg ulcer management. Initially they sought support from community nursing teams, but this became problematic as many of the patients were not currently

registered with a general practitioner. The well-being nurses progressed to contacting the vascular nursing service within secondary care to provide the support and education that they required.

Programme of education

A programme of education and training was developed and undertaken by the well-being nurses relating to leg ulcer management. The team received training on wound management from the vascular nursing team, together with product selection and leg ulcer management including assessment, diagnosis and appropriate treatment. It was decided by the vascular nursing team not to train the well-being nurses in compression bandaging, as this requires intensive education and training (Stephen-Hayes, 2006), plus they felt that they would not see the required volume of patients who needed bandaging to maintain their competency. Therefore, the decision was taken to provide the therapeutic levels of compression needed to treat venous ulceration by using compression hosiery kits, as these provide a sustained graduated compression that is determined by the manufacturing process (Thomas and Fram, 2003; World Union of Wound Healing Societies [WUWHS], 2008), not the individual. The well-being nurses were taught how to measure, apply and care for hosiery and were educated on how to examine the limb for any signs of skin damage.

Additional advantages of using hosiery kits were that the patients had freedom of choice regarding footwear and clothing, as they were not restricted by the bulkiness of bandages. Patients were able to apply and remove their hosiery enabling them to take control of their care, which in turn encourages ownership and ultimately aids concordance (Coull and Clark, 2005).

Using hosiery kits instead of compression bandaging could limit the type of ulcers that the well-being team could treat, as hosiery may not be suitable to manage highly exuding ulcers. Such ulcers may require bulky primary dressings to control the exudate, making application of hosiery difficult, or could even result in uneven pressure on the leg (Anderson, 2008).

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This was a limitation of the care pathway being developed, as it was initially felt by the vascular nursing team that many of the ulcers to be treated would be highly exuding.

However, in the authors' experience to date, this has not been the case, as the majority of ulcers experienced by this patient group have been dry with minimal exudate. Many patients are self-caring, finding their own ways of managing the ulcer and controlling the exudate. Many of the clients have 'dried out' their ulcers by various methods including talcum powder, sanitary towels, babies' nappies, and hand towels. They were thus given advice to seek professional help rather than treat the ulcer themselves. In the authors' experience from working at WISMS, the majority of patients do not dress their ulcers, preferring to leave them exposed to the air, drying the wound bed naturally.

Following the education and training programme, the well-being nurses still had reservations about performing arterial assessment and ankle brachial pressure index (ABPI) measurement, as they believed that they would not have the need to perform the assessment frequently enough to ensure competent practice. This was considered in the design of the new care pathway by the well-being nurses in collaboration with the vascular nurse team (*Figure 1*).

Initial interventions were concerned with gaining and maintaining contact of the client with the well-being team. Once contact was established, an appointment would be made for the client to be seen by the vascular nurse team, in the environment most appropriate for the client. Ideally, clients would attend the vascular nurse outpatient

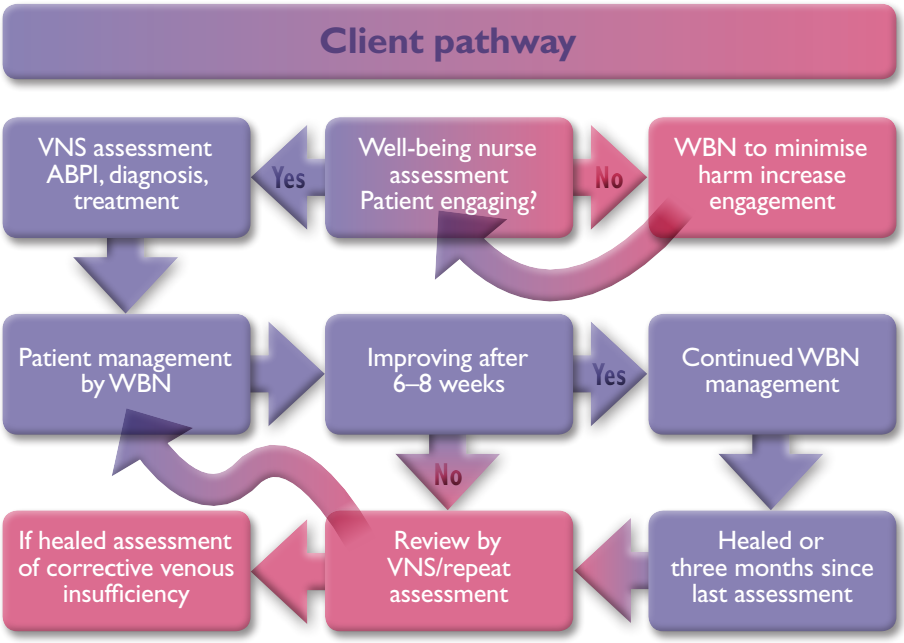

Figure 1. Flow diagram of care pathway (VNS = vascular nurse specialist; WBN = well-being nurse).

clinic independently. However, often this patient group have problems with trust, stigma and anxiety disorders, or are simply unable to attend appointments because they have no transport or money to physically get to the hospital. In these cases, the well-being nurses assessed the clients to decide which would be the best location for the assessment to be performed. The options included the well-being nurses collecting the patient and bringing them to the outpatient clinic, or the vascular nursing team visiting the WISMS clinic. On occasions, especially when the clients had severe anxiety issues, assessments were performed in the patients' homes. Following the vascular assessments and recommendation of treatment plan, the patients' ongoing care was delivered by the well-being nurses.

The well-being nurses, being independent or supplementary prescribers and as a result of their recent training, were able to prescribe wound products and hosiery kits and reviewed the patients on a regular basis, altering treatment programmes as necessary. If at any point the well-being nurses were concerned, a review appointment was arranged with the vascular nursing team. The well-being nurses encouraged the patients to become active partners with their wound care as well as their drug treatment; this is essential when dealing with substance misuse and is associated with good outcomes (DH, 2007).

Multidisciplinary working

The DH (2007) suggest that many drug misusers have a myriad of health and social problems that often require interventions from a range of providers. Joint working across health and social care is therefore a key feature of effective treatment. Wheatley (2007) reported the benefits of collaborative working with consultant nurses for the homeless, in building relationships and providing education and training to enable nurses with expert knowledge of this specialised client group to provide optimum leg ulcer care. This new pathway goes further to provide a formal arrangement of true collaborative working led by the well-being team.

Healing of the leg ulcer is only one part of this patient group's journey, with the final destination being overcoming drug dependency. This is often extremely difficult, as it not only involves tackling the addiction, but also embarking on and maintaining major lifestyle changes...

Evaluation

In the experience of the authors, the pathway has been successful with over 50 patients using this model over the last year (2009–2010). Healing rates have increased, there has been a reduction in GP visits, and none of the clients on the pathway have attended accident and emergency departments or been admitted to acute services, due to leg ulceration or cellulitis. The well-being model incorporates initiatives that improve mental well-being as well as physical healing, thereby promoting re-integration into society. This is an important factor, as drug misuse is associated with various health problems that are a burden to the user and society in general (Bennett and Holloway, 2008).

Care pathways need to be designed and tailored for specific client groups, with flexibility to allow adaptation to the patient's unique and individual journey. For those with a history of IV drug abuse, they should ensure completed and sustained recovery from their addiction.

Conclusion

Pathways and guidelines for patients with leg ulceration have been in place for a number of years (International Leg Ulcer Advisory Board, 2003; Royal College of Nursing [RCN], 2006; Scottish Intercollegiate Guidelines Network [SIGN], 2010), but when assessing and treating this challenging patient group of IV drug users, pathways need to be modified and delivered by the most appropriate practitioner to ensure effective treatment. Vascular nursing teams, tissue viability nurses and community nursing teams are often experts in leg ulcer management, but lack skills and knowledge relating to substance misuse. The well-being nurses have the skills, knowledge and access to supporting services to address the well-being needs of their patients. Healing of the leg ulcer is only one part of this patient group's journey, with the final destination being overcoming drug dependency. This is often extremely difficult, as it not only involves tackling the addiction, but also embarking on and maintaining major lifestyle changes — this is where the unique skills and knowledge of the well-being nurses play an essential part.

The design and implementation of a intercollaborative care pathway for this specific patient group ensures primary and secondary care creates a seamless service, providing best quality care that addresses the true holistic needs of the patients. WUK

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Key points

- Leg ulceration is known to be a consequence of intravenous (IV) drug use.
- Patients with a history of injection drug use have many risk factors for developing chronic venous insufficiency.
- Drug users have a wider range of health problems than members of the general population, and have higher rates of mental health disorders.
- Dependency to a substance dominates patients' lives and can place an enormous strain on the family of drug misusers, including the children of drug using parents.
- Treatments programmes must be tailored not only to treat the venous leg ulcer, but also to improve general and mental health and improve long-term outcomes.
- Joint working across health and social care is key feature of effective treatment.