

# HydroTherapy in Conjunction with Compression Therapy

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## Introduction

Venous leg ulcers (VLU) are open lesions between the knee and ankle joint that occur in the presence of venous disease (Vasudevan, 2014; Norman et al., 2016). VLUs affect between 0.18% and 1% of the population that increase to 3% in patients over 80 years of age (Franks et al., 2016). If treated correctly [eg with compression therapy] 93% of VLUs will heal in 12 months, however 7% will remain unhealed after five years. Unfortunately the recurrence rate of VLU is approximately 70% within three months of healing and subsequent repeated cycles of ulceration, healing and recurrence are common (Franks et al, 2016). For the patient VLU's are painful, distressing and have a social impact all of which detrimentally affects their QoL (Finlayson et al., 2016; Salomé et al., 2016; Green et al., 2018).

The cost of treating VLU's is very high, a recent study that used data from "The Health Improvement Network" (THIN) database calculated that the mean NHS cost of wound care over 12 months was an estimated £7600 per VLU. However, the cost of managing an unhealed VLU was 4-5 times more than that of managing a healed VLU - £3000 per healed VLU and £13 500 per unhealed VLU (Guest et al., 2018). It is imperative therefore that healing (not just managing the symptoms) of VLU is the main aim of treatment by the clinician. Also recent research on what matters most to people with ulcers, and other complex wounds, has found that complete wound healing is a high priority (Cullum et al, 2016).

Patients with VLU's present the clinician with a number of unique challenges namely:-

- VLU can produce high levels of wound exudate that require dressings that are able to absorb and retain it in order that it cannot cause further damage eg maceration and/or excoriation (Menon, 2012; Brown, 2017).
- VLU can present with high levels of de-vitalised tissue that need to be re-removed in order that healing can progress. Therefore debridement of these wounds is a pre-requisite for treatment. However VLU can be extremely painful and many debridement techniques (eg. surgical, mechanical) exacerbate the pain and suffering of these patients.
- Compression therapy is the mainstay of VLU treatment, without which, healing is unlikely to progress. In order to aid in the healing of VLU the above challenges have to be addressed, the development of a HydroTherapy approach meets these challenges and enables healing progression. HydroTherapy consists of HydroClean® plus and HydroTac®, these dressings may be used on their own or sequentially to cleansing/debridement, promoting granulation tissue formation, supporting re-epithelialisation and ultimately healing.

## Methods

### HydroClean® plus

To assess wound bed preparation (e.g., debriding the wound of slough/necrotic tissue), supporting the generation of granulation tissue, impact on peri-wound skin and enabling healing progression in patients with a variety of different wound types

### HydroTac®

To assess the clinical effectiveness in enabling re-epithelialisation, impact upon peri-wound skin and hence healing progression

### Compression Therapy

To measure the impact of compression as to whether it aids or interferes with mechanism of HydroClean® plus or HydroTac® and also the effect upon the patient in terms of comfort and concordance.

| Venus Leg Ulcers - Healing Rates* |     |
|-----------------------------------|-----|
| Healed within 12 Months**         | 93% |
| Recurrence Rate @ 3 Months        | 70% |
| Unhealed at 5 Years               | 7%  |

\*Franks et al, 2016\*  
\*\*If Treated correctly with Compression Therapy

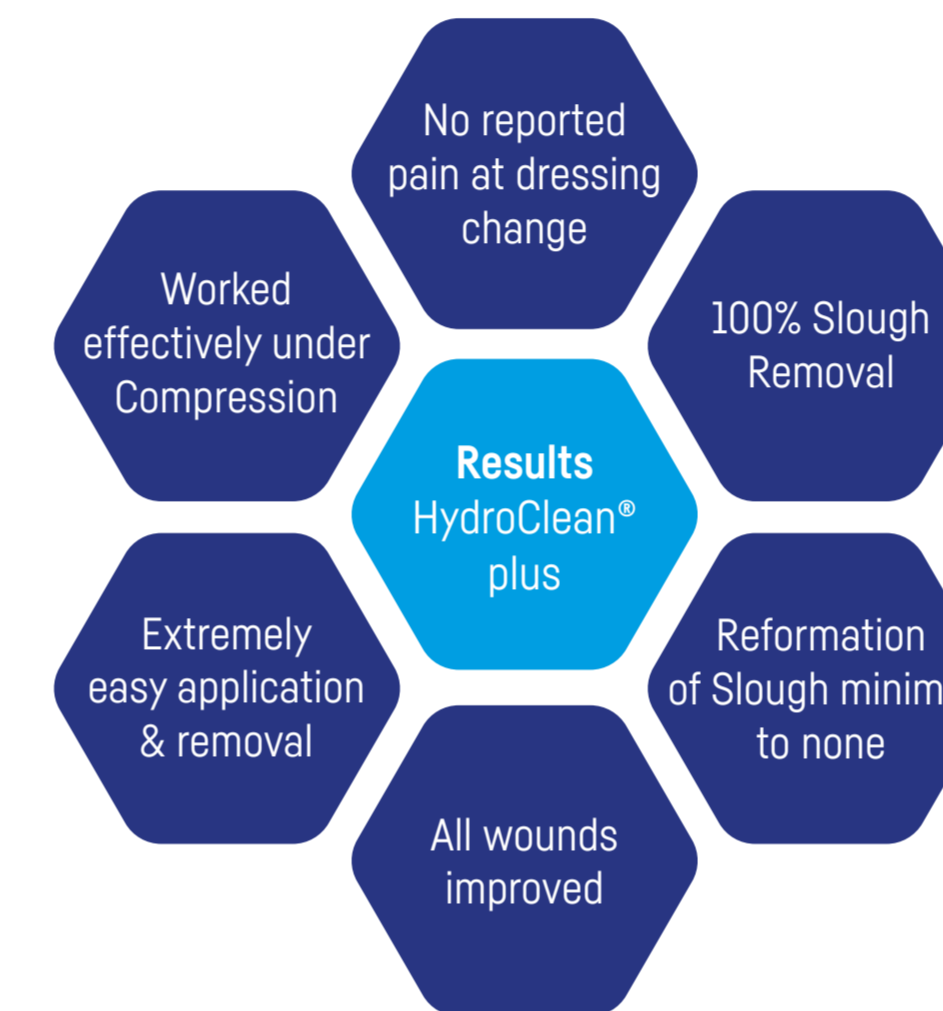
| Venus Leg Ulcers - Costs*        |          |
|----------------------------------|----------|
| Mean Cost for 12 Months (Healed) | £7,600   |
| Mean Cost for Healed VLU         | £3,000   |
| Mean Cost for UNHEALED VLU       | £13, 500 |

\*Guest et al, 2018

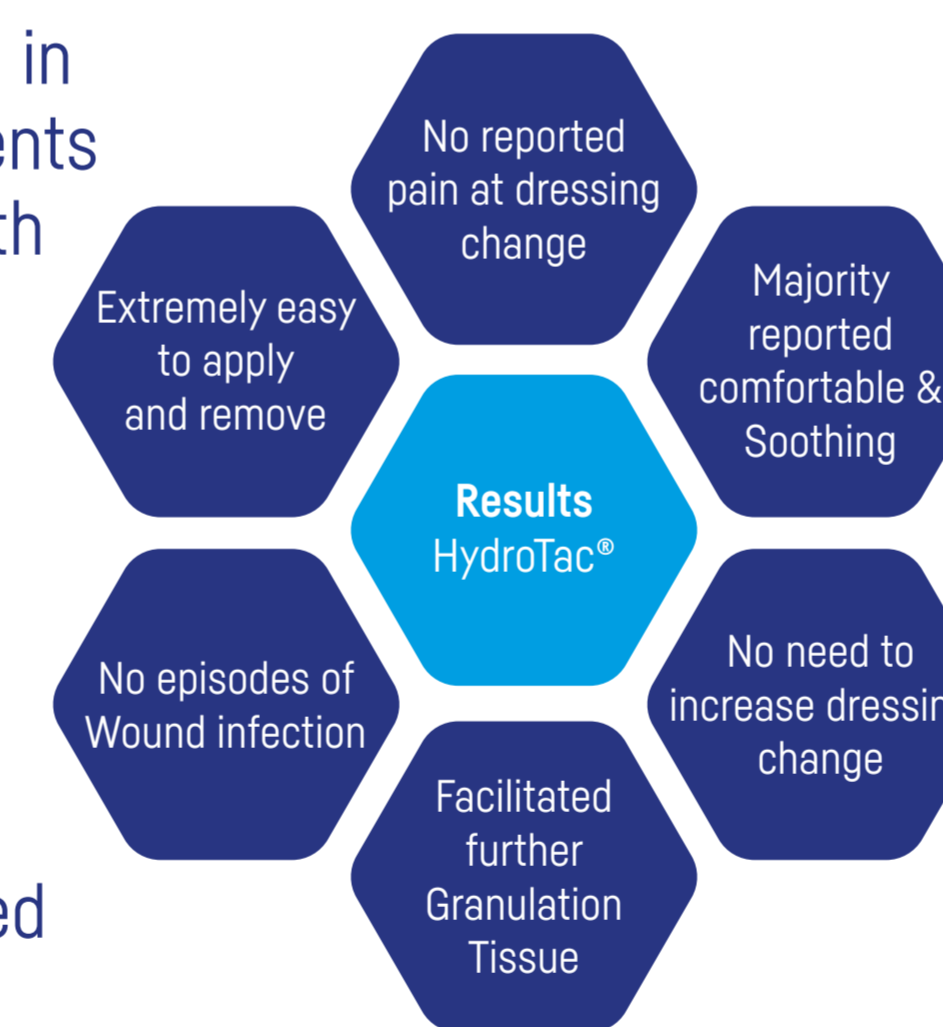
## Results

In total 10 patients were recruited into this study.

Clinical objectives were reached with both dressings in that HydroClean® plus was effective in the rapid and painless debridement of a variety of microvascular wounds leading to good wound bed preparation.



HydroTac® was successful in supporting healing in patients that had clean wounds with lower levels of exudate but that required a dressing that would enable the healing process to proceed. In all patients the dressings were used consecutively and improved the clinical outcomes of these patients.



Compression therapy was used in conjunction with HydroTherapy, neither HydroClean® plus or HydroTac® compromised the pressures under the bandages such that they were ineffective. This is supported by in vivo measurement of sub-bandage pressure and excellent clinical outcomes.

### Case Study 1

12.6.18 - HydroClean® plus    3.7.18 - HydroClean® plus    24.7.18 - HydroTac®



### Case Study 2

13.6.18 - HydroClean® plus    24.7.18 - HydroClean® plus    18.9.18 - HydroTac®



### Case Study 3

13.3.18 - HydroClean® plus    1.5.18 - HydroClean® plus    12.6.18 - HydroTac®



### Case Study 4

15.5.18 - HydroClean® plus    12.6.18 - HydroTac®    17.7.18 - HydroTac®



### Case Study 5

12.6.18 - HydroClean® plus    24.7.18 - HydroClean® plus    17.7.18 - HydroTac®



## Conclusion

As a result of the patient case, I will be recommending the use of HydroTherapy under compression to other colleagues across the trust.

### References:

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