

From Blind Bandaging to Measurable Compression

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Carewave presentation
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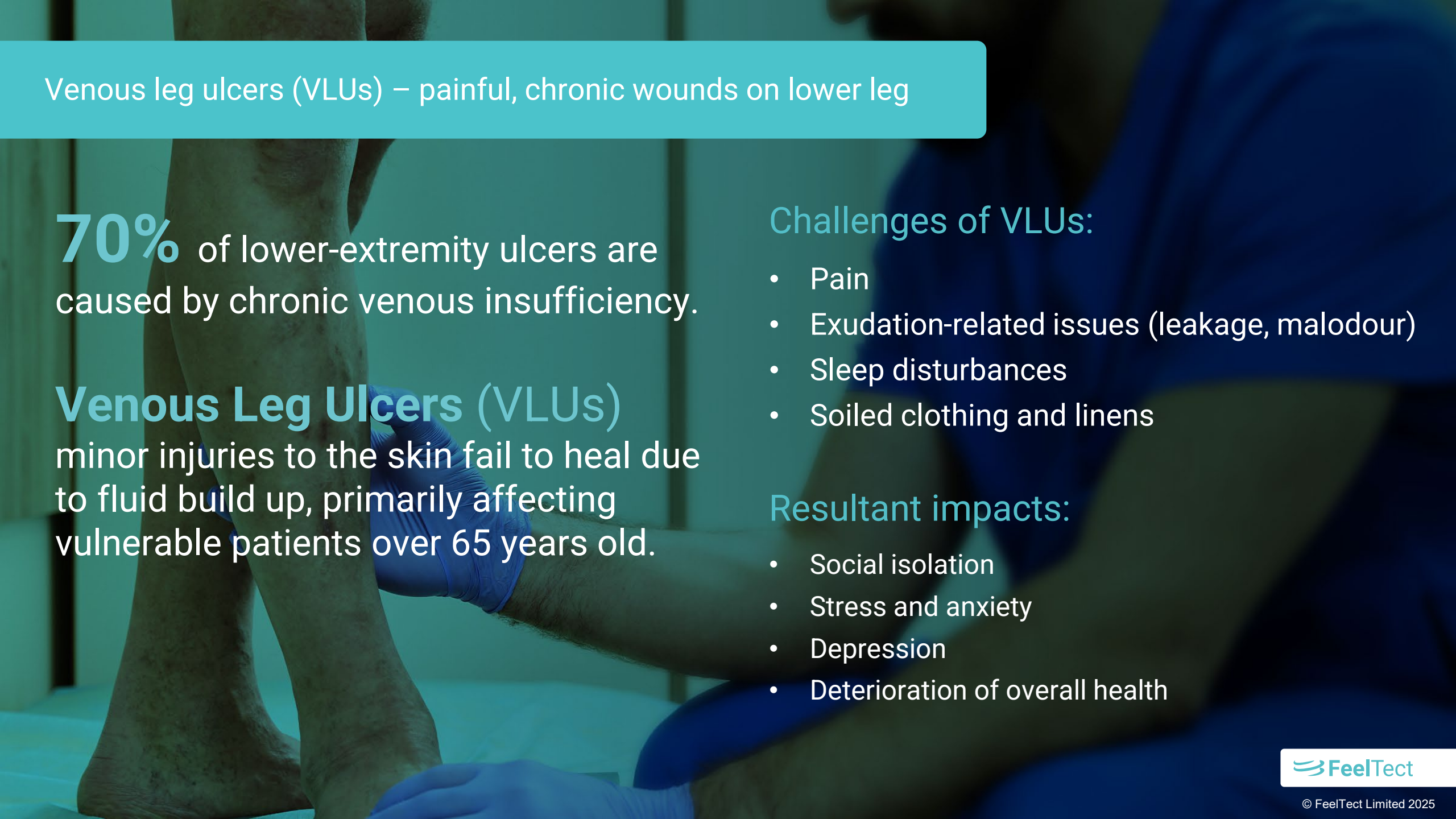
Conflicts of Interest

The studies presented were funded by FeelTect Ltd., the company that developed the wireless sub-bandage pressure monitoring device used in the evaluations.

Darren and Manuel are currently employed by FeelTect Ltd.

The Clinical Need





Venous leg ulcers (VLUs) – painful, chronic wounds on lower leg

70% of lower-extremity ulcers are caused by chronic venous insufficiency.

Venous Leg Ulcers (VLUs)
minor injuries to the skin fail to heal due to fluid build up, primarily affecting vulnerable patients over 65 years old.

Challenges of VLUs:

- Pain
- Exudation-related issues (leakage, malodour)
- Sleep disturbances
- Soiled clothing and linens

Resultant impacts:

- Social isolation
- Stress and anxiety
- Depression
- Deterioration of overall health

Poorly managed VLUs negatively impact healthcare budgets and patient quality of life

11.5m

VLU cases globally each year

30%

Non-healing VLU within a year

\$16,000

Cost per VLU treatment
(USA)

£3.2B

Annual cost of VLU to UK NHS



Validating the idea



OLLSCOIL NA GAILLIMHE
UNIVERSITY OF GALWAY

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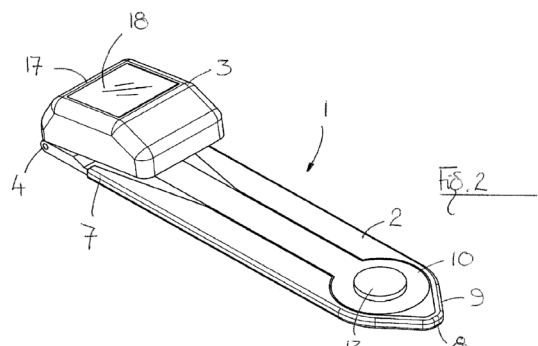
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(54) Title: A PRESSURE SENSING DEVICE FOR USE WITH A COMPRESSION BANDAGE



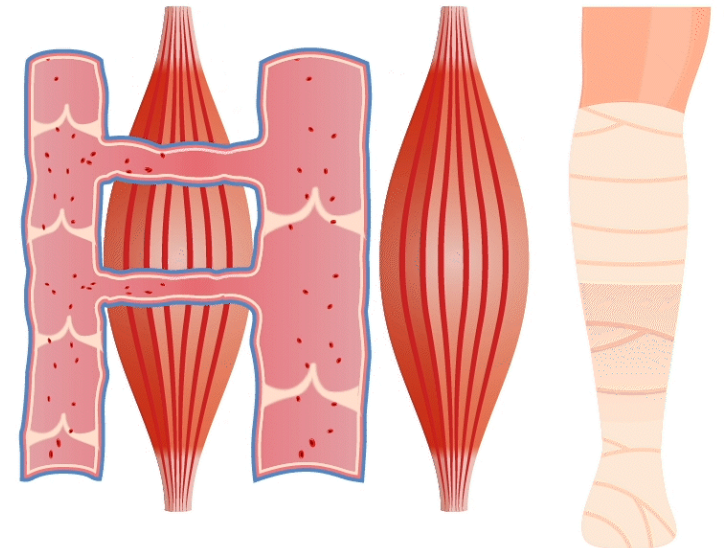
The technical drawing shows a perspective view of a pressure sensing device. It consists of a rectangular base (1) with a sensor (3) on top. A long, thin arm (2) extends from the base, ending in a circular component (10). Various other parts are labeled with numbers: 4, 7, 13, 8, 9, and 17. A handwritten 'Fig. 2' is next to the drawing.



Compression Therapy: The gold standard treatment

What We Know

- Compression is the evidence-based standard of care for VLUs
- Therapeutic sub-bandage pressure: 35–45 mmHg at the ankle
- Compression restores blood flow, drives healing and reduces venous hypertension
- Studies confirm faster healing vs. no compression



PROBLEM 1

Pressure Uncertainty: We Don't Know What We're Applying

Compression bandaging is applied without direct pressure measurement in virtually all routine clinical settings.



No feedback

- Clinicians rely on feel, visual cues, and experience alone
- Inter-clinician variability is substantial
- Under-compression fails to reduce venous hypertension
- Over-compression risks arterial compromise and pressure



Too loose
=
Ineffective



Too tight
=
Dangerous

90%

failure to achieve target pressure¹

98%

VLUs are not treated by specialist nurses²

1. Heyer et al. *International Wound Journal*, 2017. 14(6): p. 1148-1153
2. Guest et al. *BMJ Open* 2015;5:e009283. doi: 10.1136/bmjopen-2015-009283

Compression Therapy: The gold standard treatment, but...

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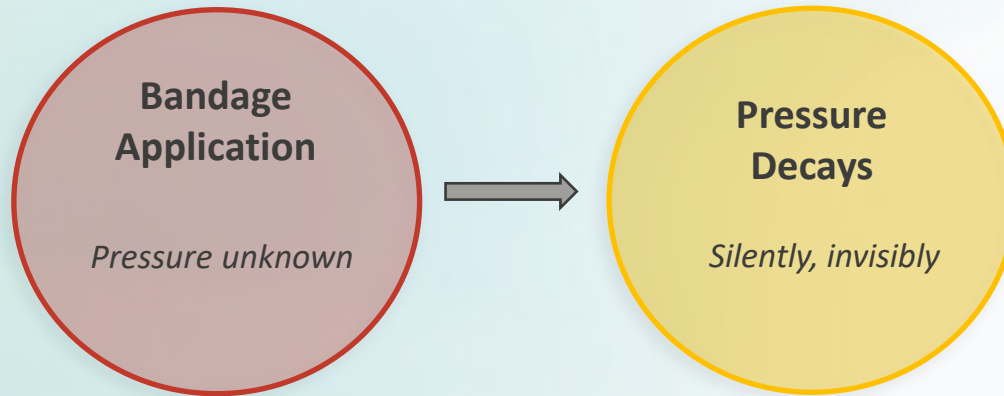
The Reality

- Pressures achieved in practice often fall outside the therapeutic range
- No standard method to verify applied pressure at time of bandaging
- Pressures drop significantly between clinic visits
- Healing rates in routine practice vary between clinics

PROBLEM 2

Pressure Loss: Therapeutic Levels Cannot Be Sustained

Even when therapeutic pressure is initially achieved, it declines rapidly after application. Bandages left in place for days lose a significant proportion of their pressure, often falling below the therapeutic threshold long before the next dressing change.



Immediate loss

Continued decline driven by bandage relaxation, oedema reduction, and patient activity

Sustained loss

Pressure drops within hours of application due to limb accommodation

50%

pressure loss in 4 hrs³

80%

patient non-compliance⁴

3. Verzwylt, et al, *Journal of Wound Management*, 2023. 24(3)

4. Moffatt et al. *Int Wound J*, 2009. 6(5): p. 386-393.

PROBLEM 3

No Feedback Loop: The Clinician is Flying Blind



Sub-therapeutic periods go undetected

Patients may spend days or weeks without effective compression, directly delaying healing

Adjustments are reactive, not proactive

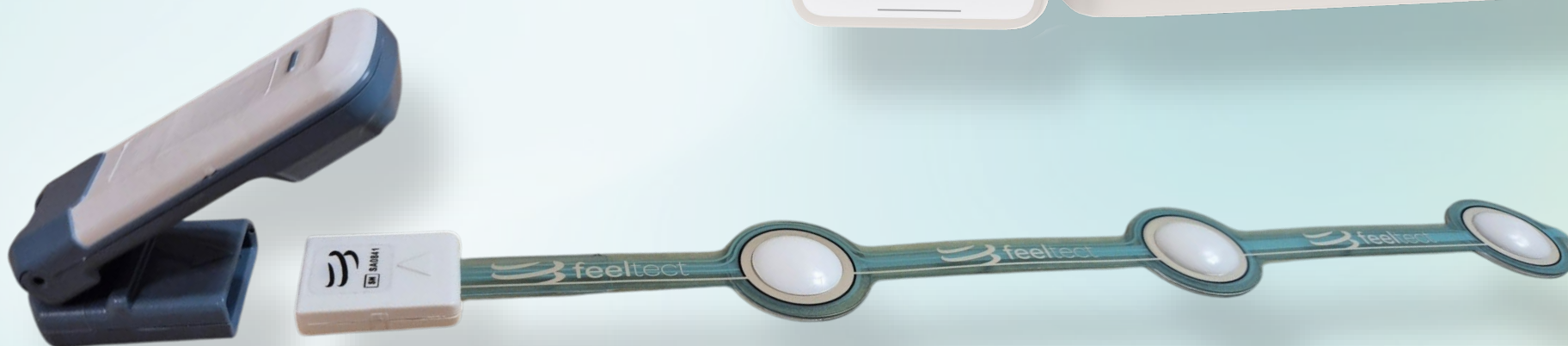
Clinicians can only respond at the next visit

Patient self-management is impossible

Without feedback, patients and carers cannot take corrective action even when they want to

Introducing

FeelTest Tight Alright



A new approach to monitoring *and* optimising compression therapy

TightAlright

A pioneering system that **monitors sub-bandage pressure during compression therapy**, both at the point-of-care and remotely.

Patent protected

1. **Pressure sensing device** for use with a compression bandage (WO2020127610A1)
2. **System and method** for monitoring wound therapy (EP20214181)



The Solution: Tight Alright



Making an impact on the global stage





Clinical Data

- Two service evaluations
- Real world data
- Routine clinical practice setting
- Wireless pressure monitoring system integrated into compression therapy

Aim of the Evaluation



Evaluate feasibility
and engagement in
routine care



Observe healing
outcomes



Explore patient self-
management

Participants and Intervention

24 patients, 6 with bilateral wounds:

30 limbs treated

Average patient's age:

71 years

Average duration of ulcer:

13 months

Average initial wound size:

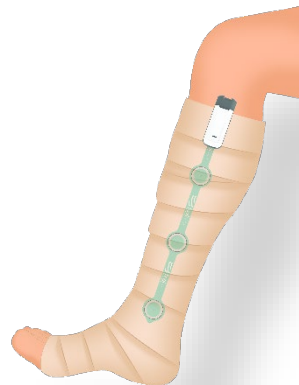
45.14 cm²

Wearable device

- Consistent delivery of gold standard
- Accurate
- Practical

Digital platform

- Remote monitoring
- Self-management
- Data-driven optimisation



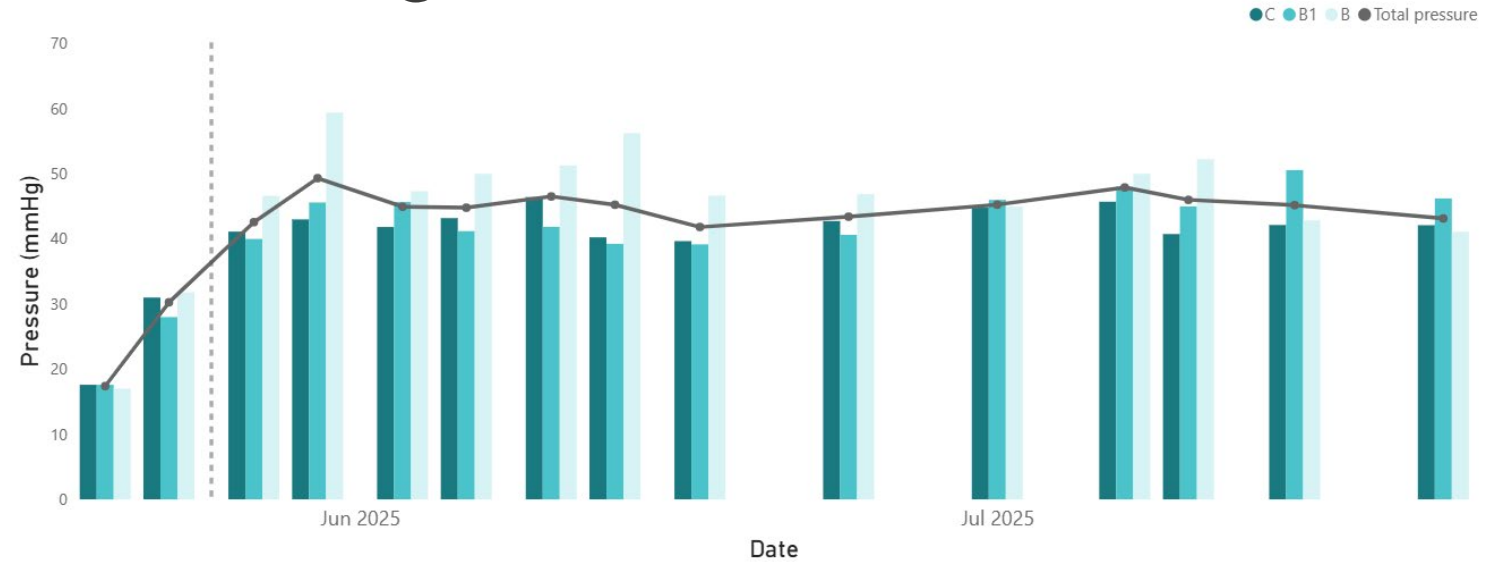
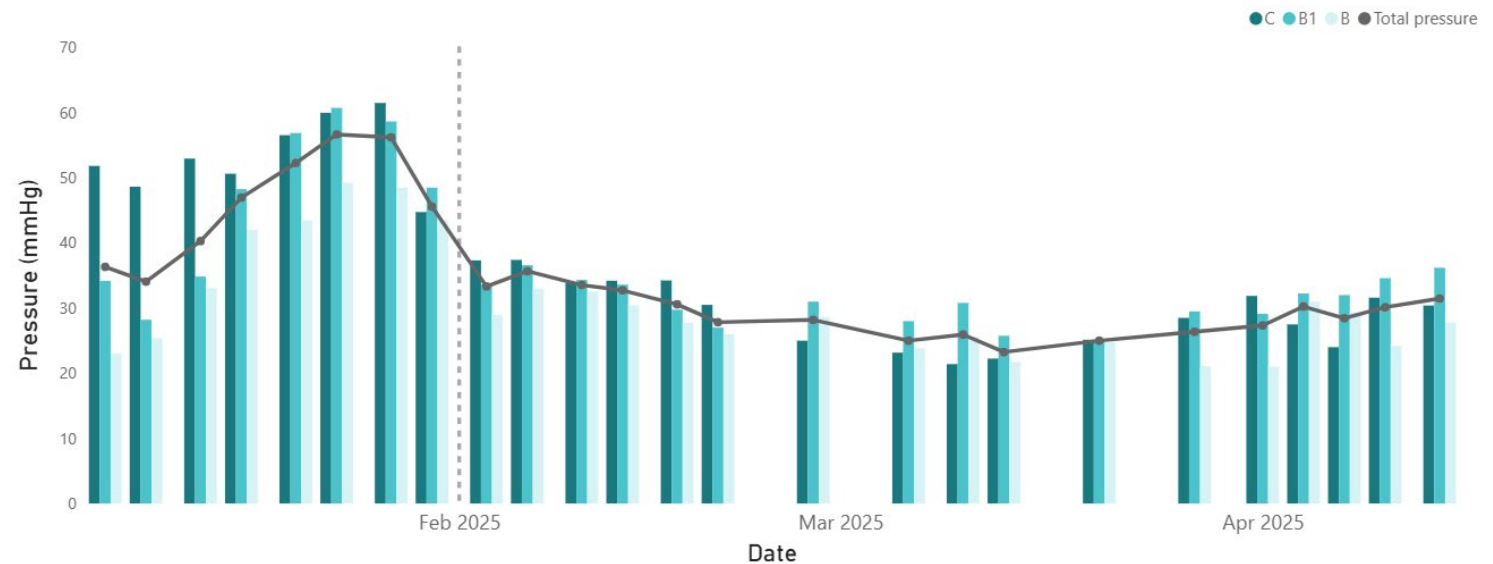
Patient Training and Self-Management

- Training for patients & carers
- Daily monitoring & feedback
- Personalised care plans
- Skills to maintain compression between visits
- Technology well accepted
- 56% self-adjusted compression
- Greater patient involvement in care

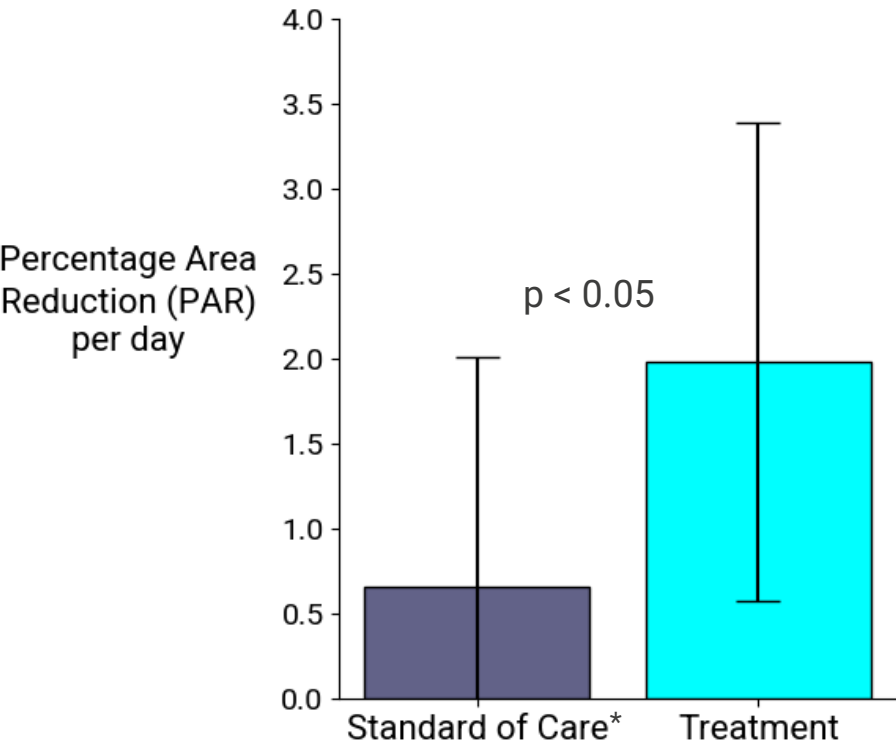
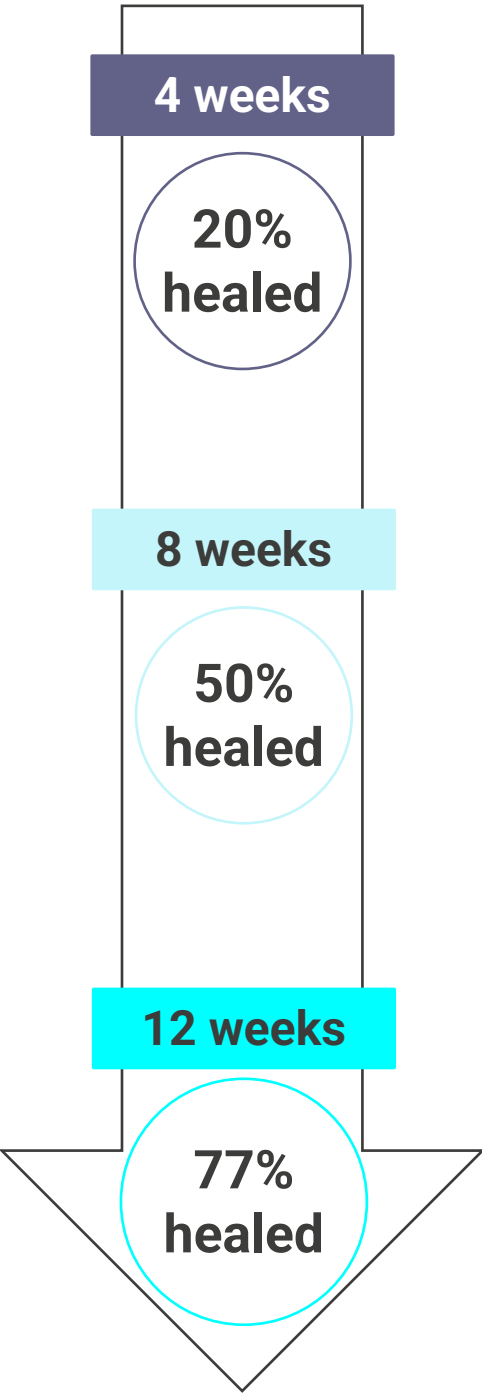
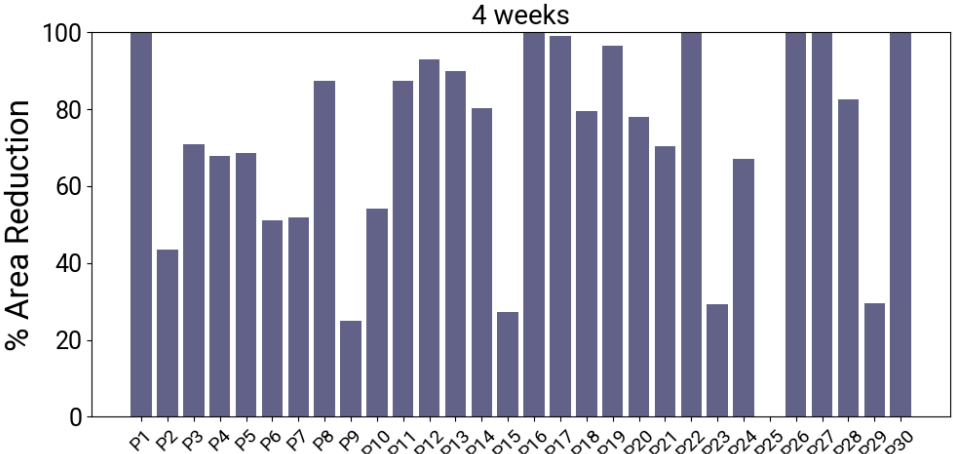
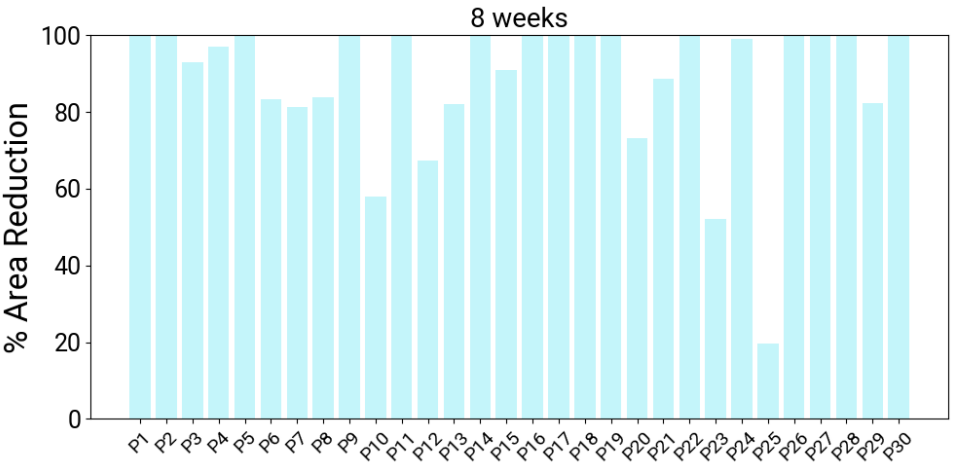
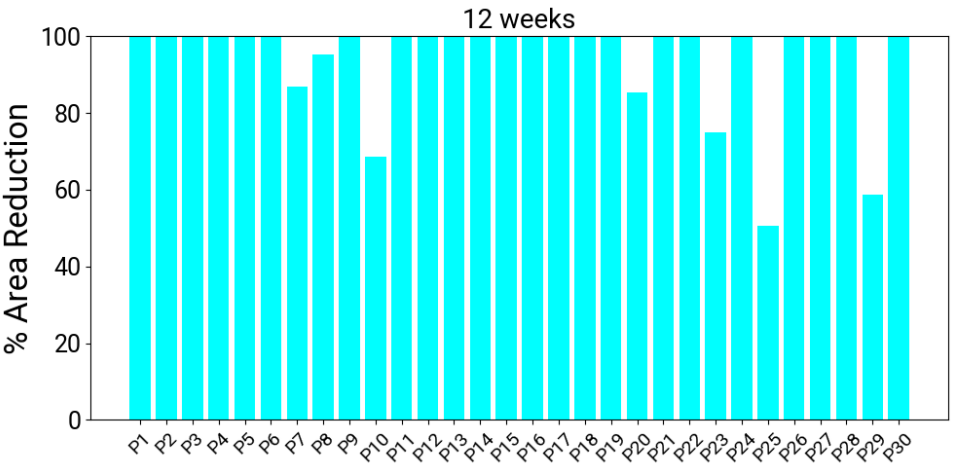


Pressure Maintenance and Tailoring

- Average 1.7 transmissions/day
- Mean pressure: 41.2 ± 5.9 mmHg
- Therapeutic levels successfully maintained



Healing Outcomes

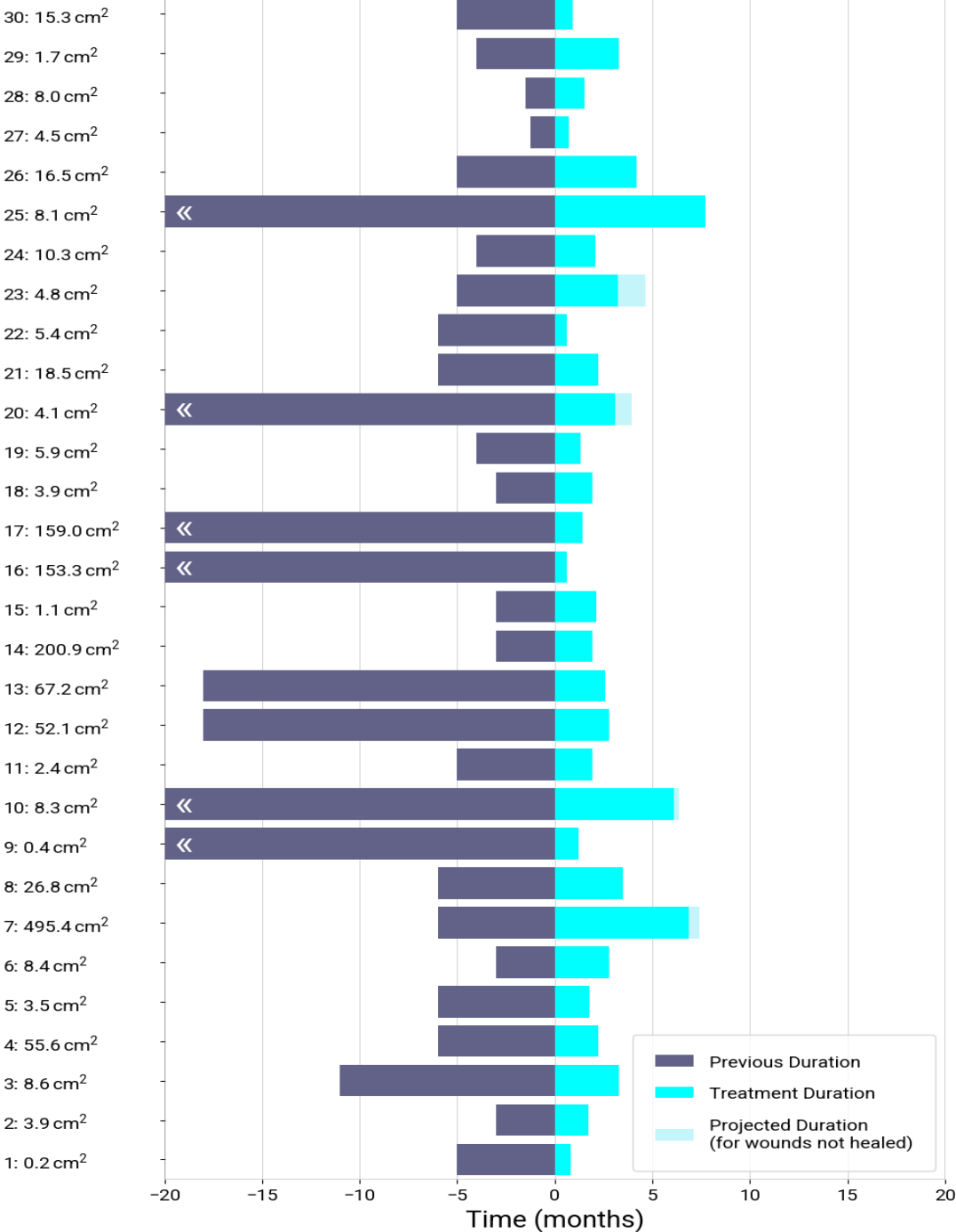


* Taken from Bull et al. *Adv Wound Care* 12.12 (2023): 671-679.

Healing Outcomes

- 83% achieved $\geq 50\%$ wound reduction at 4 weeks
- Mean healing time: 58 days
- 77% healed by 12 weeks
- Previous studies report rates of 57% at 12 weeks*

*Mościcka P, et al. Evaluation of factors affecting the healing process of venous ulcers: A 12-week longitudinal study. Wound Repair and Regeneration 31, 783–792



84 days



**Size of wound:
8.4 cm²**

115 days



**Size of wound:
15.3 cm²**

205 days



**Size of wound:
~500 cm²**

Our therapy vs Standard of care (VenUS 6 data)

77% vs 48%

healed at 12 weeks

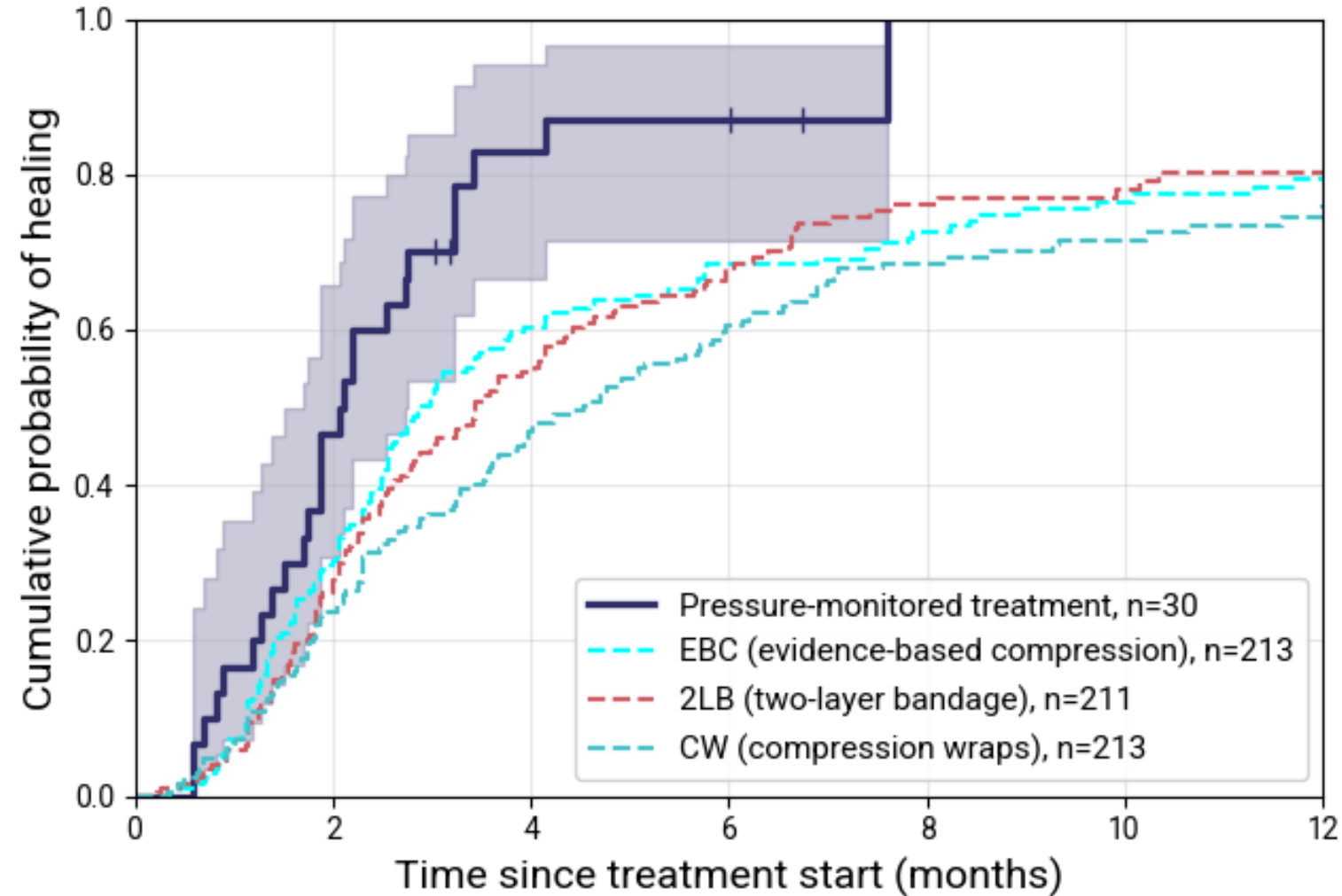
8 vs 12.6 weeks

median time to healing

~1.6x faster

(median healing)

VenUS 6 (Arundel 2026, PLOS Med) evidence-based compression arm.



Conclusion and Implications

- Technology fits smoothly into routine care
- Supports adherence & therapeutic pressure
 - Empowers patients & carers
 - Practical, acceptable approach
- Supports move toward personalized wound care
- Potential to improve outcomes and efficiency

Thank you



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