# Case Studies to Evaluate the Performance of Superabsorbent Dressings Combined with **Cohesive Two-Layer Compression Bandages for Treating Highly Exuding VLUs** Laura Paterson<sup>1</sup> BSc, Leah Griffin<sup>2</sup> MS, Christine Bongards<sup>3</sup> PhD

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### Introduction

- Chronic, highly exuding wounds negatively impact patient 10 elderly patients suffering from non-healing (mean VLU age: quality of life. Patients frequently experience negative emotions 38.5 month), highly exuding VLUs were included, and received an such as shame, embarrassment, and loneliness. average 2.6 dressing changes/week (Table 1).
- moisture • Excess fluid makes achieving an optimum balance challenging and can lead to maceration.
- Managing highly exuding venous leg ulcers (VLUs) has the additional challenge of absorbing and maintaining exudate in the dressing while compression is in place.

## Purpose

• The objective of this study was to determine clinical outcomes, <u>Cost Outcomes (Table 3):</u> and patient-reported benefits of KC superabsorbent dressings With KC-SAD, the frequency and severity of exudate leakage was Cost estimates based on material and resource consumption (KC-SAD\*) for the care of highly exuding VLUs compared to significantly reduced by 73% (p<0.0001). resulted in 13% weekly cost of care savings. standard of care superabsorbent dressings (SOC-SAD) in • Dressing leakage within the bandage or strike-through was 51% reduction in total cost of care for highly exuding VLUs is combination with cohesive two-layer compression (C2LC<sup>+</sup>).

# Methods

- Patients with highly exuding VLUs that received 2 weeks of SOC-SAD + C2LC followed by 4 weeks care with KC-SAD + C2LC were included (**Figure 1**).
- The primary objective was to determine first insights in quality of care improvement benefit.
- The secondary objective was to estimate the impact on cost of care, based on case study resource consumption and outcomes.
- Assessments were performed at baseline, per care period, and per bandage change.
- The Health Economics scenario was based on material consumptions, frequency of care, and wound closure rate.

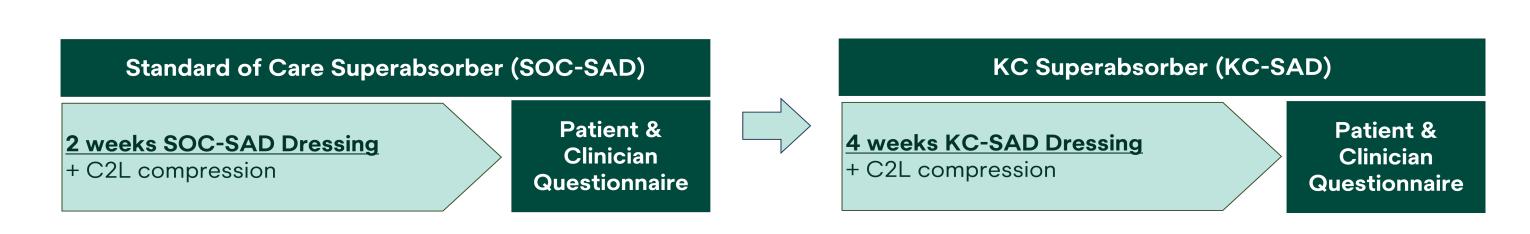


Figure 1. Approach for Quality Improvement Evaluation

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NOTE: Specific indications, contraindications, warnings, precautions and safety information exist for these products and therapies. Please consult a clinician and product instructions for use prior to application. Rx only.

## Results

During the first 2 weeks of care with SOC-SAD, 1 patient refused KC-SAD + C2LC (Figure 2). to continue any compression therapy. This patient never received • 50% (5/10) of wounds closed >95% during KC-SAD + C2LC. KC-SAD + C2LC treatment.

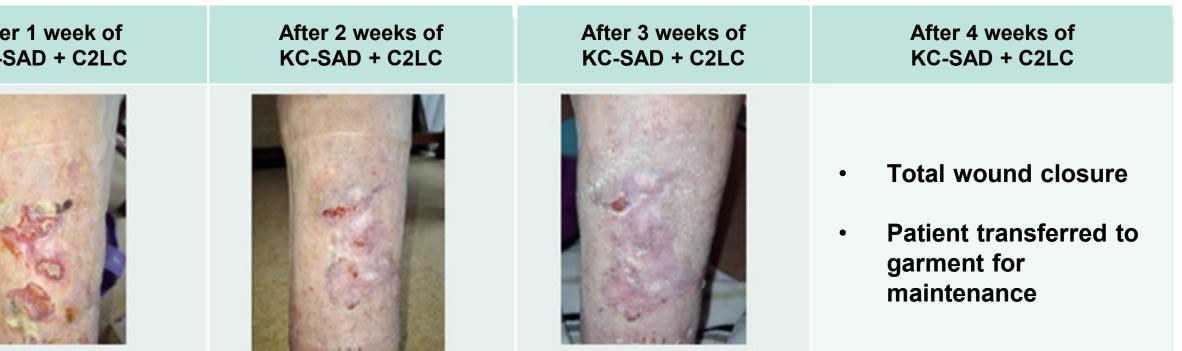
### **Care Outcomes (Table 2):**

- Mean frequency of visits was slightly reduced from 2.04/week with SOC-SAD to 1.8/week with KC-SAD.
- Dressing sizes were reduced in line with VLU size reduction, maintaining the dressing saturation at the same levels  $(0.45-0.46 \text{ g/cm}^2, p=0.76418).$
- observed in 89% of SOC-SAD applications at mean wear time estimated including the clinical outcomes with KC-SAD + C2LC in of 3.4 days while 22% of KC-SAD applications demonstrated UK out-of-hospital setting observed in this case series. dressing leakage at mean wear time of 3.9 days.

Dationt Recoling Characteristics	eristics		Care Outcomes				Table 3. Cost Out				0 2 4	6	8		10	12
Patient Baseline Characteristics Patient age ( years, mean)	Value 72.3	Outcome Paran		SOC-SAD	KC-SAD		Cost of Care Assessments			KC-SAD	<b>Figure 2</b> During Pagaling Care Dationt Paga	vrtad O		of Lifo	ia Llial	
VLU age (month, mean)	38.5	Number of VLUs		10	9		Total cost for primary dressin	gs £	138.31 £	170.01	Figure 3. During Baseline Care, Patient-Report		uality	of Life	IS FIG	шу
VLU size (cm <sup>2</sup> , mean)	65.2		d (days accumulated)	151 2.0	241 1.8		Mean cost per primary dre		3.14 £	2.74	Impacted due to VLU					
ABPI (mean)	1.2	Visits per week		3.4	3.9		Total cost for SAD application		112.55 £	129.81						
Baseline weekly frequency of care (mean)	2.6	Mean Dressing W C2LC bandage sl		0	0		Mean cost per SAD applica		2.56 £	2.09			Worsen	ning		Improving
Mobility	n (%)		+C2LC application outcomes (	n) 34	49		Cost per Compression band	lage application £	8.47 £	8.47	Patient-Reported Outcomes	N	-3 -2	-1	0 1	2
walking	4 (40%)	Exudate Manager		11) 34	45		Cost of care per week				Was the dressing and bandage <b>comfortable</b> ?	8			6	2
aided walking	6 (60%)	Mean Dressing	0	500	406		Weekly Material Cost	£	28.91 £	23.96	Did the dressing feel <b>wet</b> under the bandage?	9			1	4
%Wound Edge Maceration	n (%)			149		luo	Weekly Nursing Cost (£55.0	00 / visit) £	112.19 £	99.05	Did your leg feel <b>hot</b> and <b>sweaty</b> ?	9			3	4
0-25%	0		Weight at removal (gram)	0.46			Total cost of care per week	£	141.09 £	123.01	Did you experience any form of <b>itching</b> under the dressing?	9			1 2	6
26-50%	4 (40%)		Saturation at removal $(g/cm^2)$	0.46	0.45 0.76	418		Cost reduction (%)	£18(13%)		Did you experience <b>pain</b> in the last two weeks while your dressing and bandage were	9			3	3
51-75%	4 (40%)	Dressing leakage	e n (%)	0	14/00 00()		Estimated total cost per hig	hly exuding VLU			In place? Did your leg feel <b>heavy</b> with your dressing and bandages in place?	9			2	7
76-100%	2 (20%)	no		0	14 (28.6%)		Estimated mean duration of	f care (weeks)	52	29	Did you see <b>leakage</b> through your dressings in between clinic appointment?	9			2	5
	2 (2070)	minor	bie bie wede ite		24 (49.0%)	001	Total Material Cost	£	1,503.10 £	694.88	Did the compression bandage stay in place?	8			7	1
ABPI = ankle brachial pressure index		moderate - with	0	25 (73.5%)	9(18.4%)		Total Nursing Cost	£	5,833.64 £	2,872.32	Did you feel any <b>relief in pain or swelling</b> with the compression bandage?	8			1 4	3
		severe - through	n bandage	5 ( 14.7%)	2 (4.1%)		Table I and the set of the later of the			0 507 04						
					•		Total cost per highly exudin	g VLU £	7,336.75 £	3,567.21						
			with minor to no improvemen healed (> 95% closed)		0 5 of 9 (>50%)		lotal cost per highly exudin	g VLU £ Cost reduction (%)	7,336.75 £ £3.770 (519		Figure 4. Change in Patient-Reported Outcom	nes wit	th Dres	essing (	Change	e
Care-Status	Baseline	Number of VLUs After 1 week of	healed (> 95% closed) After 2 weeks of	After 1 week	0 5 of 9 (>50%) k of	After 2 weeks of {C-SAD + C2LC	After 3 weeks of	Cost reduction (%) After 4 weeks of			Figure 4. Change in Patient-Reported Outcom	nes wit	th Dre	ssing (	Change	Ð
Patient:	Baseline	Number of VLUs	healed (> 95% closed)	0	0 5 of 9 (>50%) k of	After 2 weeks of C-SAD + C2LC		Cost reduction (%)			Conclusions <ul> <li>Wound edge maceration and wound</li> </ul>	d heal	ling o	outcor		
Patient: 84-year-old Baseline wound	<section-header></section-header>	Number of VLUs After 1 week of	healed (> 95% closed) After 2 weeks of	After 1 week	0 5 of 9 (>50%) k of		After 3 weeks of	Cost reduction (%) After 4 weeks of	£3.770 (519		Conclusions	d heal	ling o	outcor		
<b>Patient:</b> 84-year-old	<section-header></section-header>	Number of VLUs After 1 week of	healed (> 95% closed) After 2 weeks of	After 1 week	0 5 of 9 (>50%) k of		After 3 weeks of	Cost reduction (%) After 4 weeks of KC-SAD + C2LC	£3.770 (519		Conclusions <ul> <li>Wound edge maceration and wound</li> </ul>	d heal ion wi ts in c	ling o ith C2 quality	outcor 2LC.	nes ir	nprov

### **Results (Cont'd) Care Outcomes Cont'd (Table 2):**

- 50% (5/10) of wounds treated with SOC-SAD + C2LC had no During baseline care, patients reported quality of life implications or only minor clinical improvements, while positive healing due to VLUs, especially related to limitations of clothing choices progression was observed in 100% (9/9) of wounds treated with and discomfort due to smell. All patients suffered always or often from reduced mobility due to heavy bandages and feel isolated (Figure 3).
- Patients preferred KC-SAD + C2LC, and consistently reported im-• KC-SAD reduced the frequency of severe and moderate exudate provements with newly implemented superabsorbent dressing in leakage per application by 73% compared to SOC-SAD. all aspects of comfort.
- 56% (5/9) of non-healing wounds progressed within 4 weeks of KC-SAD to wound healing (97-100% closed).
- No C2LC bandage slippage was observed.



\*Solventum<sup>™</sup> Kerramax Care<sup>™</sup> Super-Absorbent Dressing; \*Solventum<sup>™</sup> Coban<sup>™</sup> 2 Two-Layer Compression System (Solventum Corporation, Maplewood MN, USA)

Christine Bongards and Leah Griffin are employees of Solventum. Laura Paterson is a paid consultant for Solventum.

# **Results (Cont'd)**

### **Patient-Reported Outcomes:**

• KC-SAD + C2LC treatment resulted in enhanced comfort, less exudate strike-through and leakage, and a reduction in heat and moisture under the bandage. Dressing- and compressionrelated pain and itching was reduced when using KC-SAD + C2LC (Figure 4).

