

Relative clinical and cost effectiveness of superabsorbents for the management of venous leg ulcers in the UK

Meeting report from the 2012 Harrogate Sorbion symposium – *X Factor Part 2*

In November 2012, leading wound care specialists met at the Wounds UK Harrogate conference to examine new evidence from the first ever study characterising the use of a range of superabsorbent dressings for managing venous leg ulcers (VLUs).

Crucially, this cohort study used data from actual clinical practice and, with the help of the audience, a panel of experts challenged its author to convince them that the conclusions should be adopted in the clinical setting. This second Wounds UK debate followed on from last year's discussion of how best to select an appropriate dressing.

The debate took place at Harrogate International Conference Centre and was chaired by David Leaper, emeritus professor of surgery, University of Newcastle upon Tyne.

The expert panel consisted of the following key opinion leaders in wound care:

- ▶ Julian Guest, Visiting Professor of Health Economics, School of Biomedical Sciences, King's College, London; Director, Catalyst Health Economics Consultants, Northwood, Middlesex.
- ▶ Simon Barrett, Tissue Viability Nurse, East Riding of Yorkshire Primary Care Trust.
- ▶ Keith F Cutting, Visiting Professor, Buckinghamshire New University; Director, Perfectus Medical Limited.

After Professor Guest presented his original research, Mr Barrett and Professor Cutting were invited to question him about his findings, using their respective clinical and academic backgrounds to inform the discussion. The audience was also encouraged to grill the panel. This enriched the debate by drawing from a range of experiences and opinions.

OPENING THE DISCUSSION

Professor Leaper began by reviewing the main points from the previous debate on "Dressing choice – what's the X Factor?" The panel members had each made their case for using one of a number of methods of choosing dressings. Professor Guest secured most of the audience's votes with his argument for health economics as the primary consideration.

Professor Leaper said the audience had been comfortable with the concept of health economics, which they felt was "something to do with sharing the pot." But he proposed that things have moved on and we now have a cost-effectiveness analysis based on real-world data at our disposal.

Next, he reviewed some of the key issues impacting on our understanding of modern wound care. He reminded the audience that the research underpinning the theory of the moist wound environment was carried out on pigs under laboratory conditions (Winter, 1962), a far remove from treating patients in clinics or the community today. He moved on to the characteristics of an ideal wound dressing (Leaper, 2006), highlighting the need for it to be absorbent and remove excess exudate, and explaining that this debate would focus on superabsorbent dressings, which are designed to manage moderate to highly exuding wounds.

Finally, he discussed the hierarchy of clinical evidence, which generally ranks systematic reviews and meta-analyses top. Reminding us of David Sackett's work on integrating evidence-based medicine into clinical practice (Sackett, 1996), Professor Leaper urged the audience to consider the evidence, but also to remember their individual experience, listen to patients,

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and, with today's session in mind, consider the health economics. Cohort studies using carefully collected data, he said, can also be extremely helpful.

PRESENTING NEW EVIDENCE

Professor Guest then presented his original research, which assessed the relative clinical effectiveness and cost effectiveness of using four different superabsorbent dressings – DryMax Extra, Flivasorb, KerraMax, and sorbion sachet – and one sodium carboxymethylcellulose dressing – Aquacel – in the treatment of highly exuding chronic VLU, from the perspective of the NHS. These data have since been published (Panca, 2013).

The study matched 439 patients with highly exuding VLUs of over three months duration from The Health Improvement Network (THIN) database, a medical research database of over nine million patients registered with 500 general practices in the UK. Patients' mean age was 73.1 years and 46% were female. Patients were matched by age and gender with no significant differences in comorbidities detected. Randomised patients

were treated with one of the five dressings for six months. There were 99 patients in each treatment group, but 57 patients in the DryMax Extra group were excluded because of underlying skin cancer.

Data was analysed using:

- ▶ Quality-adjusted life years (QALYs) – a measure of disease burden that includes the quality and the quantity of life lived. The cost effectiveness of one dressing relative to another was defined as the cost per QALY gained.
- ▶ Attribute ranking – the dressings were individually ranked according to scores attained for various attributes (healing, time to healing, reduction in analgesic use and frequency of dressing change).

Professor Guest explained that Aquacel was excluded from the results analysis because wounds that remained unhealed in this group increased in size by 43% over the study period, whereas unhealed wounds treated with the other dressings decreased in size by a mean 34%. Aquacel could therefore not be recommended for use in this cohort. Professor Guest noted that, in any case, Aquacel is not a superabsorbent dressing.

Figure 1. Average 6-month patient cost breakdown at 2010/11 prices.

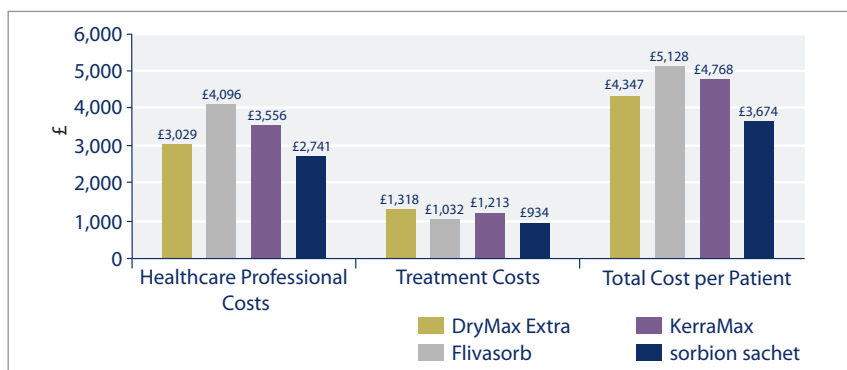
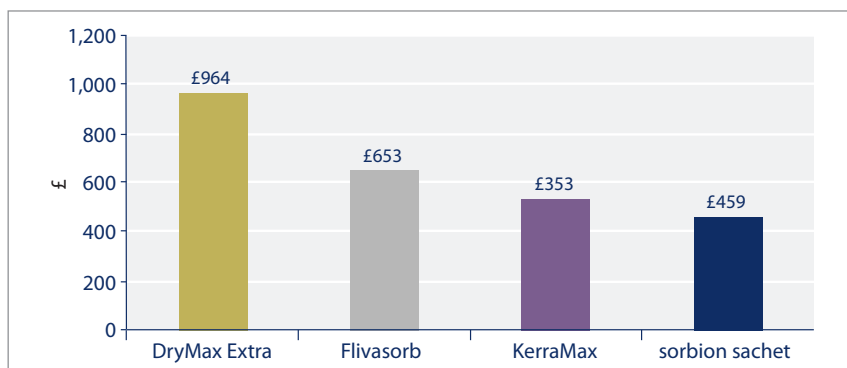


Figure 2. Dressing costs.



COST EFFECTIVENESS

In the cost analysis:

- ▶ Each product was evaluated in terms of patient resource use cost per patient.
- ▶ Nurse visits were the primary cost drivers in all groups accounting for 67–78% of costs.
- ▶ Numbers of nurse visits were affected by compression use, analgesic use, patient age, wound age and size.
- ▶ Dressings accounted for only up to 22% of costs and compression bandages 7%.

Patients were predominantly managed by practice nurses and community nurses. Only three patients were seen by a tissue viability nurse for one visit in a hospital outpatient clinic.

The 6-monthly NHS cost of managing a VLU with sorbion sachet was £3700 per patient, which was 15–28% lower than the cost of managing patients with the other three superabsorbents (Figures 1 and 2). In addition, sorbion sachet saved the NHS between 14% and 52% per patient compared with other superabsorbents due to the reduced number of dressings required.

Clinical effectiveness

In the clinical effectiveness analysis the following attributes were assessed:

- ▶ Wound duration.
- ▶ Wounds healed.
- ▶ Time to healing.
- ▶ Analgesic use.
- ▶ Dressing changes.

Overall, there were no significant differences observed in the wound healing rate and time to healing (39–56% of VLU healed by 6 months), despite the fact that sorbion sachet was used on the oldest wounds (19.8 months vs 6.8 months for DryMax Extra; 6.5 months for Flivasorb; 9.9 months for KerraMax).

Wound age and use of analgesics at baseline were both independent predictors of a wound not healing. Analgesic use decreased during the study period with reductions of 47% for DryMax Extra, 31% for sorbion sachet, 27% for Flivasorb and 11% for Kerramax.

Patients' dressings were changed, on average, every 2–4 days. Patients received a mean of 2–3 dressings and a compression bandage at each dressing change over the study period.

Health status/attribute ranking

In the attribute ranking (*Figure 3*):

- ▶ 55% of wounds in the sorbion sachet group healed and the unhealed wounds reduced by 40% regardless of longer wound duration
- ▶ Sorbion sachet scored higher in the total value ranking of attributes, resulting in a greater number of QALYs.

In summing up, Professor Guest reiterated that by using the THIN database this study reflects treatment patterns and healthcare resource use observed in actual clinical practice. He concluded that, within the limitations of the data set, sorbion sachet affords the NHS a cost-effective treatment for managing highly exuding, chronic VLUs of greater than three months of age when compared with DryMax Extra, Flivasorb, and KerraMax.

THE DEBATE

Before bringing in the responding speakers, Professor Leaper asked the audience whether they were already using superabsorbent dressings to treat VLUs. Around half raised their hand.

He then asked: “Has Julian convinced you to use sorbion sachet – the superabsorbent he puts at number one?” It would be interesting to see how the remaining panel members would influence the audience's opinion.

Mr Barrett's response

Mr Barrett acknowledged the “cracking information” presented by Professor Guest and the value of “having numbers” when selecting a dressing. His concern, however, was whether the evidence had the power to influence clinicians.

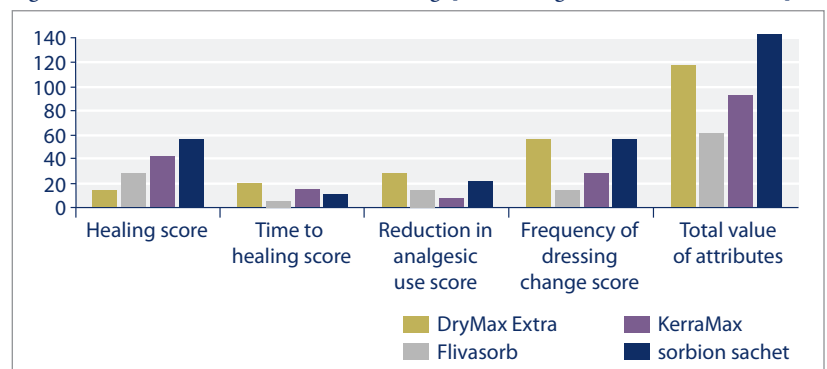
He described a typical scenario from the 1980s, where a nurse might select a dressing from the cupboard without considering the cost. “And if it was the wrong size, you'd just chuck it in the bin!”, he quipped. His worry was whether clinicians have progressed much beyond this. Fast forwarding 30 years, he recalled a meeting in his organisation where products were still being assessed solely by unit cost, with no thought given to health economics. He suggested that despite listening to Professor Guest's presentation, “we're all sitting here thinking – so what?” He asked Professor Guest to explain how his evidence can be effectively disseminated.

Professor Guest agreed it is vital the data reach the target audience in order to persuade clinicians in their purchasing and clinical decision making, and he stressed the results must not be left here in this conference.

Professor Cutting's response

Professor Cutting restated that health economics is the way forward for dressing selection in wound care. He believed, however, that

Figure 3. Health status - value attribute ranking. [NB. The higher the score, the better.]



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clinicians are at the start of a long journey, and it will take considerable time to embed health economics into clinical culture and, crucially, into management culture.

Professor Guest countered that the role of health economics in clinical decision making is extremely advanced in most other areas of medicine. It is the market access agencies – the National Institute for Health and Care Excellence in England, The Scottish Medicines Consortium in Scotland, and the All Wales Medicines Strategy in Wales – that decide which pharmaceuticals should be made available on the NHS. He warned that: “While wound care isn’t there yet, I fear it will be before you know it.”

Professor Cutting’s second point was that the outcomes of any intervention depend not only on the quality of the tool used, but also on the skill of the practitioner. Is the product being used correctly and in the right situation? He asked Professor Guest how this factor affects health economics.

Professor Guest replied that the study analysis was based on information in patients’ records. When completing the records GPs do not say whether they are competent to do what they are doing!

Questions from the audience

Professor Leaper then took questions from the audience. The first questioner queried the quality of the source data in the study. In her experience, she said, GPs’ documentation in patient records is often poor. She asked whether Professor Guest had validated the information used. Professor Guest explained that the THIN database has been validated externally and the quality control of the data demonstrated (<http://www.thin-uk.com/>).

Other contributions included a somewhat heated debate about the role of compression and the clinical model used in the study – which led to a stalemate – and an entertaining discussion of some rather unconventional “kitchen bench” experiments on superabsorbent dressings. A final questioner made a passionate plea that clinicians make informed decisions based on the best available evidence. Professor Leaper argued, that this may well consist of subjecting real-world data to validated health economic analyses, such

as that provided by Professor Guest’s study. Time was then called and the debate closed.


CONCLUSION

This debate highlighted the potential of new original research on the cost effectiveness of superabsorbent dressings to positively influence wound care practitioners’ treatment decisions.

The key points from the study data presented by Professor Guest were:

- ▶ Sorbion sachet provides the most value for money to the NHS compared with the four other superabsorbents assessed used on VLUs of greater than three months duration.
- ▶ Use of sorbion sachet has the lowest NHS costs due to:
 - ▶ Fewer dressings used for treatment, saving up to 52% of dressing costs
 - ▶ Reduced healthcare professional costs by up to 33%
 - ▶ Sorbion sachet appears to be clinically more effective than the other dressings evaluated in treating highly exuding chronic VLUs.

In the subsequent debate the expert panel hammered out two broad conclusions:

- ▶ It is vital that health economics quickly becomes a keystone of clinical decision making when selecting appropriate dressings for wound care.
- ▶ Further research into the health economics of other wound care product categories should be carried out. 

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