

SAWC 2 2016

The use of a Bio-cellular dressing, below single use negative pressure.

Across four international wound care units.

Negative pressure is now used around the world to expedite healing, wound healing as stated in the best practise guide to wound therapy published by Wounds UK about NPWT.

“ a clinically and cost effective treatment that can be used to provide maximum therapy benefits to the patient with complex wounds, and cost effective care for the health service”.¹

Complications of surgical wounds such as dehiscence caused by examples such haematomas, oedema, Infection, obesity leading to fat necrosis, can be costly and lead to loss of quality of life for patients². It has been noted in a surgical site infection paper in the United Kingdom that the incidence of dehiscent following Bowel surgery can be as high as 10.4 %⁴. It is expected today with modern wound healing ideas we should be able to speed up the healing of these patients as well as protect their quality of life. Early discharge home today has become the norm due to the ever increasing demand for fewer beds. It has also been highlighted that the use of NPWT improved patient's quality of care.

This directly can link to the increasing use of NPWT being applied when leakage from scar lines or wound breakdown is seen, as many of these patients cared for, as outpatients.

With the introduction of a small topical negative pressure pump with all the functions of the larger unit's mobility has been improved for many patients following early discharge. To try and improve on this it was decided to see if we could improve upon the healing time by using a bio cellulose stem cell dressing below the NPWT.

In a recently publish article³ the membrane was seen to improve healing rates in a small evaluation and also previously published as a poster in World union (Florence 2016) showing improvement in the healing of diabetic patients.

An evaluation was undertaken to establish if the same results can be seen while using single use negative pressure. It was decided to do an international evaluation across four sites with a variety of different wounds and practitioner from different cultures, (this is still on-going). The users are all establish practitioner who can make an informed judgement about the end results. Cases are to be picked by the specialist at each clinic and compared to a similar case previously treated with single use negative pressure.

It is understood that direct comparison is difficult due to each patient being unique. But it was felt that this would give us an understanding to correlate our results and see if any assumptions can be made.

We can also establish if around the world our practises are similar resulting in conjoined thinking and practise while forming new bonds to improve and strengthen relationships and build upon the strength of evaluation of new innovations.

Case studies will be monitors 0-4 weeks (If needed) with manual measurements and photography collected and entered onto a uniformed document.

Conclusion

It is expected that these on-going evaluations will show:

- Improvement in the formation of granulation tissue
- Stronger epithelium
- Cosmetically acceptable scar tissue

Ref 1. Best Practise Statement gauze-based negative pressure wound therapy. Wounds UK Nov 2008.

Ref 2. Milne J. "Managing surgical wound care: review of leukomed control dressings." BNJ sup. P.534-542 Nov 2015

Ref 3. Johnson S. Leak K. Going green: using a bio-cellulose membrane for patients with chronic-non healing wounds. BJN Nov 2015 vol 25 issue sup 20.

Ref 4. Surgical Site infection (SSI) Surveillance: NHS Hospitals in England. Updated 14 Dec 2015. Part of the surgical Site Infection guidance, data, analysis.

NPWT –Negative Pressure Wound Therapy. Is Generally used to remove fluid from a wound site preventing fluid build-up, maceration and increased tissue growth within the wound bed. As well as protection from outside contamination.

NPWT can be used in three ways continuous therapy, Intermittent therapy and Variable therapy. This disposable single use can be used for continuous or variable pressures as this seems the next generation of therapy available removing the pain problems that occur during intermittent therapy.

The pump used in this study is Uno supplied by Genadyne Pharma.

Biocellular dressing, is a nanotechnology membrane dressing implanted with plant stem cells to nourish the wound with vitamins and mimic the action of collagen providing a structure within the wound bed for cells to adhere too this will increase formation of granular quickly, also changing the wound environment.

This dressing is produced by Genadyne Pharma, Nanogen.

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Singapore St Luke's Hospital wound care unit are awaiting permission to join the evaluation.