

THROUGH THE KEYHOLE : CLINICAL EVALUATION OF NEW POLYMERIC MEMBRANE DRESSINGS FOR PERI-TUBE SKIN MANAGEMENT

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Introduction

Tube site skin complications are a common occurrence in acute and community-based patients with tube placements. Skin problems can occur around short and long-term tube placements eg. gastrostomy, tracheostomy, catheters and drains. Common skin complications include²⁻⁶ :

- Skin breakdown
- Irritation, inflammation and soreness (Fig. 1)
- Maceration
- Infection
- Hypergranulation

These are caused by a number of factors e.g. secretions and leakage from the tube site, dried fluids and debris, friction, pressure and shear from the tube if poorly fitted or frequently pulled and fiddled with.⁴ It is important to maintain peri-tube skin health because skin problems can lead to poor fitting of tubes, exacerbating the initial problem further, and are also a focus for pain and infection in patients who, in many cases, are high-dependency patients.

Current care protocols include regular tube fitting checks, cleansing and inspection of the peri-tube skin integrity, use of dressings and skin protectants. Dressings commonly used for peri-tube care are polyurethane foam dressings and other absorbent dressings. Tracheostomy care guidelines state that fibre-shedding dressings should not be used due to inhalation risks.⁵⁻⁷ The main functions dressings provide are; prevent further damage by absorbing and handling the secretions and offer some relief from friction and pressure by padding between the tube device and the surrounding skin. Problems arising with current dressings are difficulty of application around the tube device owing to thickness and degree of flexibility of dressings and slippage while worn¹. (Fig. 2)

A new pre-cut dressing for tube sites was recently made available to the NHS (PolyMem[®]). To ensure practice is kept up to date, these dressings were reviewed for suitability via an in-trust clinical evaluation.

Fig. 1 - Tube site with inflammation and possible infection

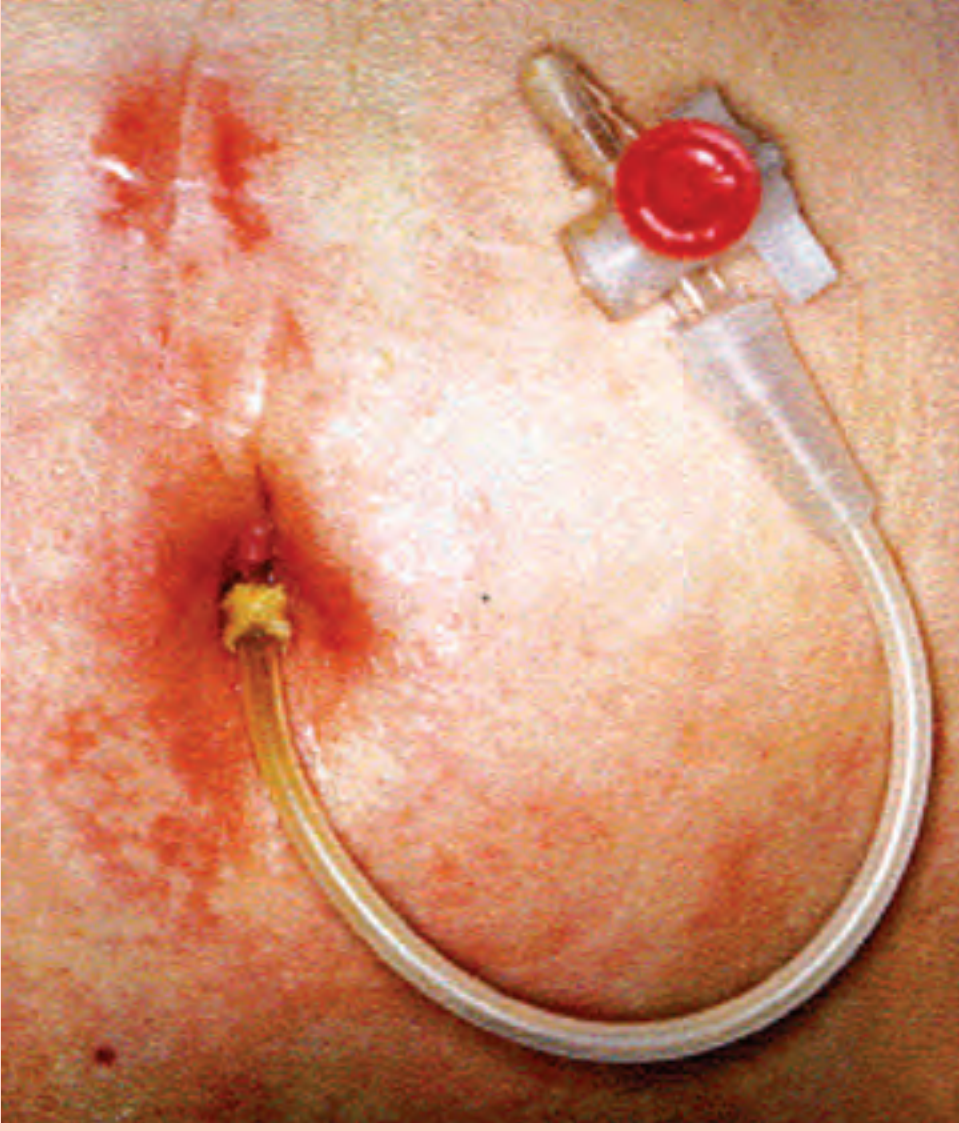


Fig. 2 - Tracheostomy site with slipped dressing



Results Continued....

Figure 6: Problems with Peri-Tube area at initial assessment

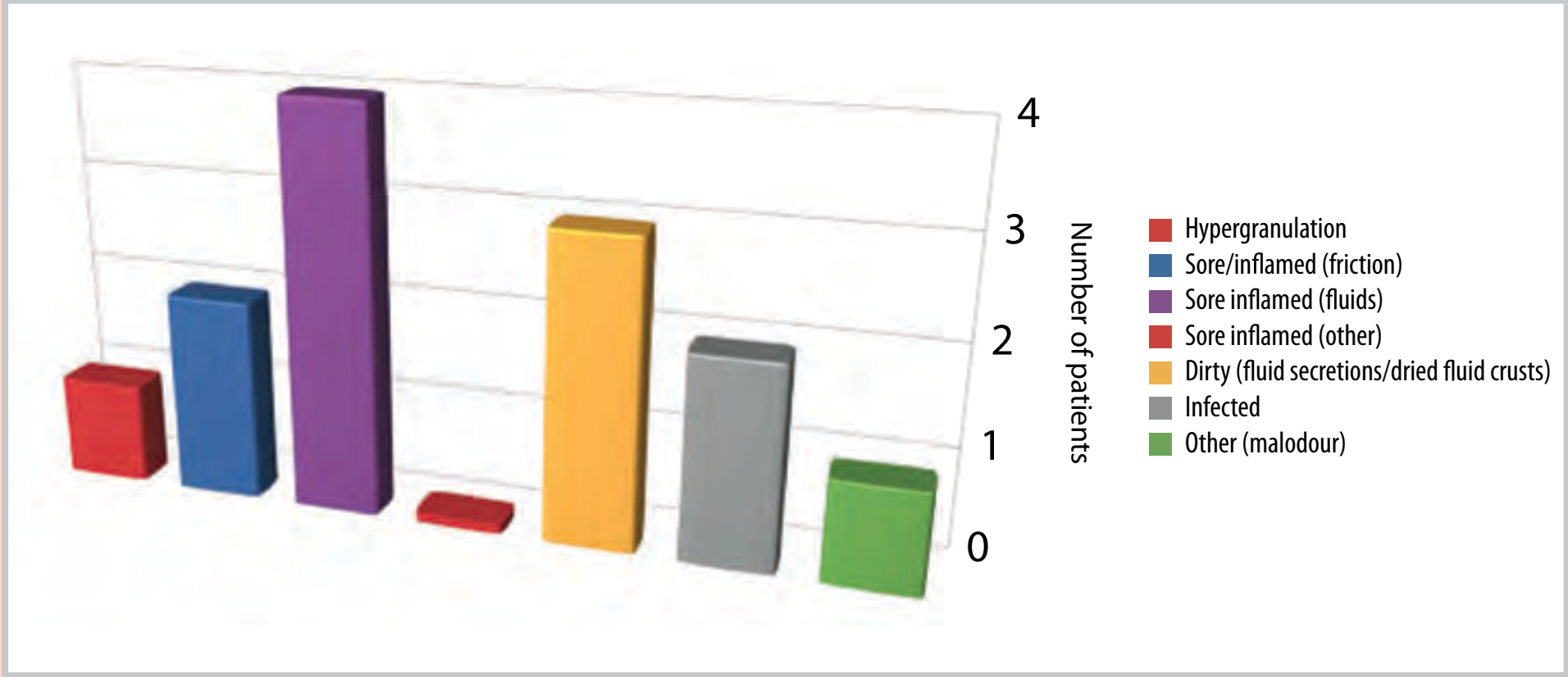


Figure 7: Total pain score of the group at each dressing change

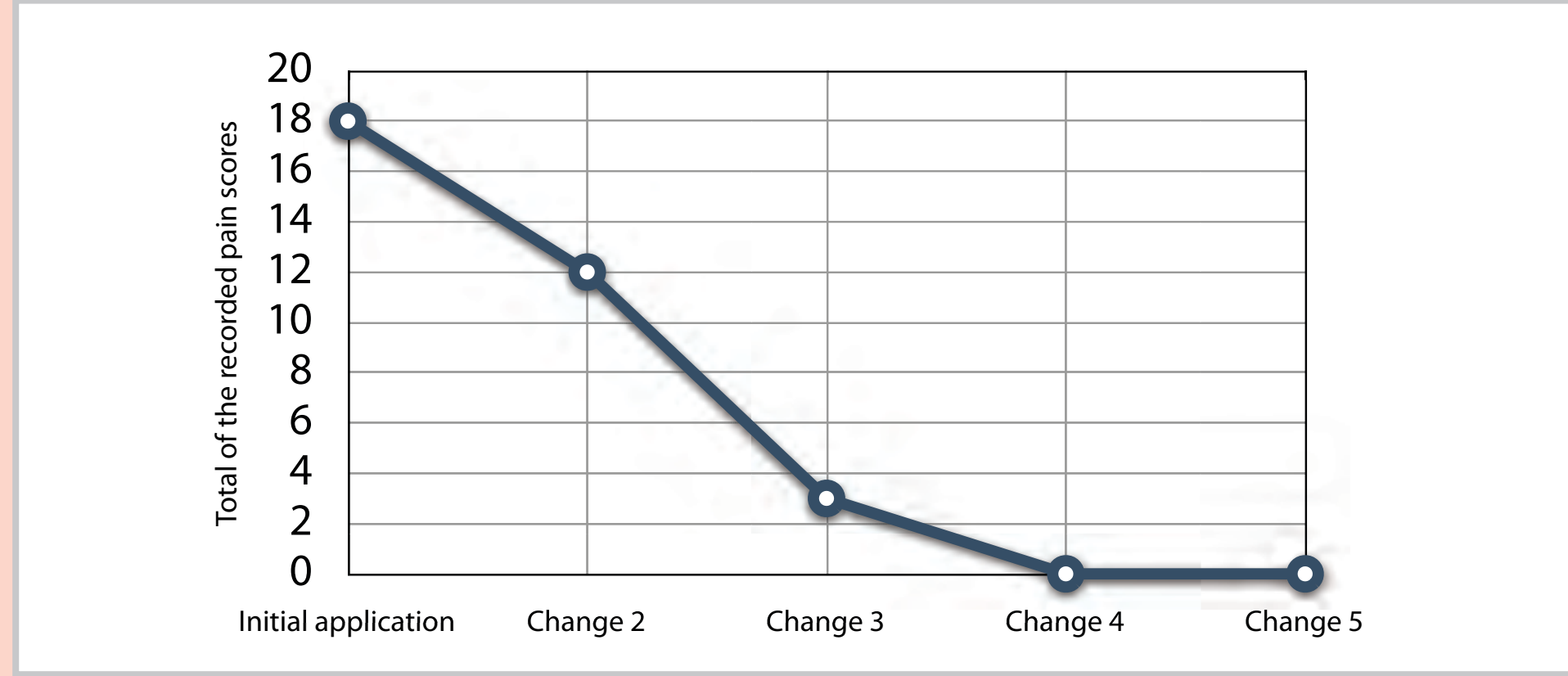


Figure 8: Peri-Wound skin conditions present in the patient group at each dressing change

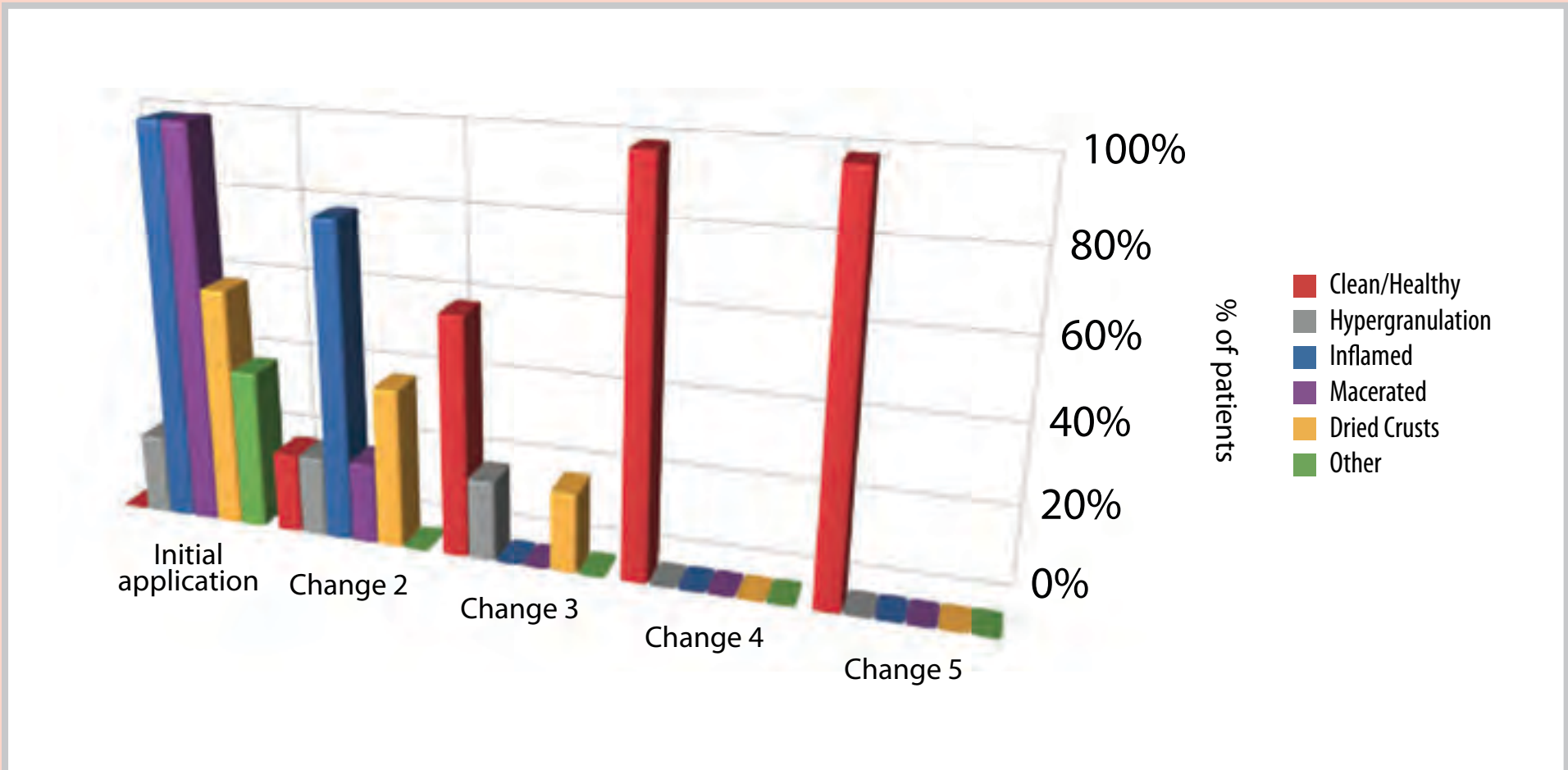
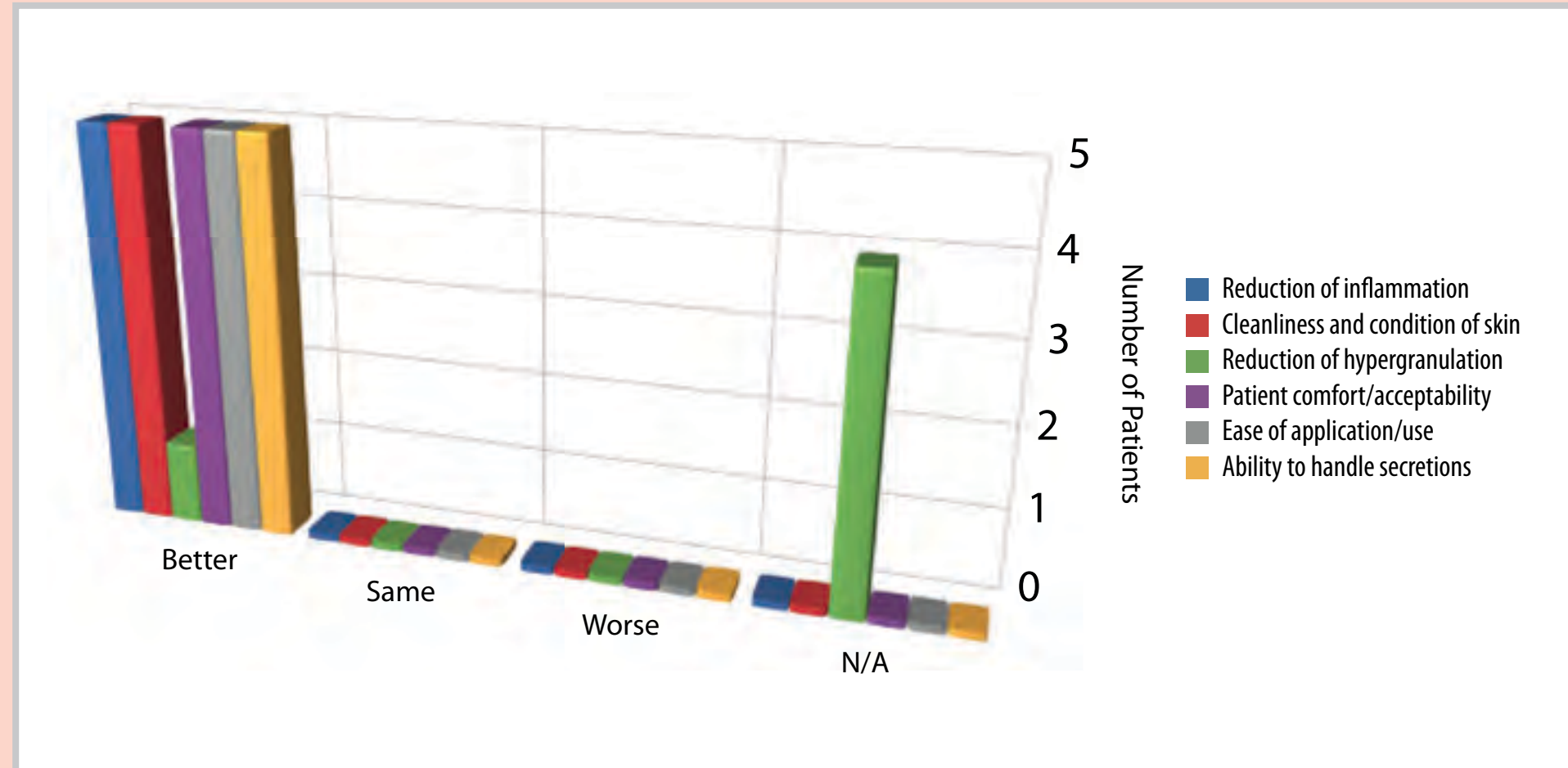


Figure 10: Outcomes with new dressing compared to experience with previous dressings

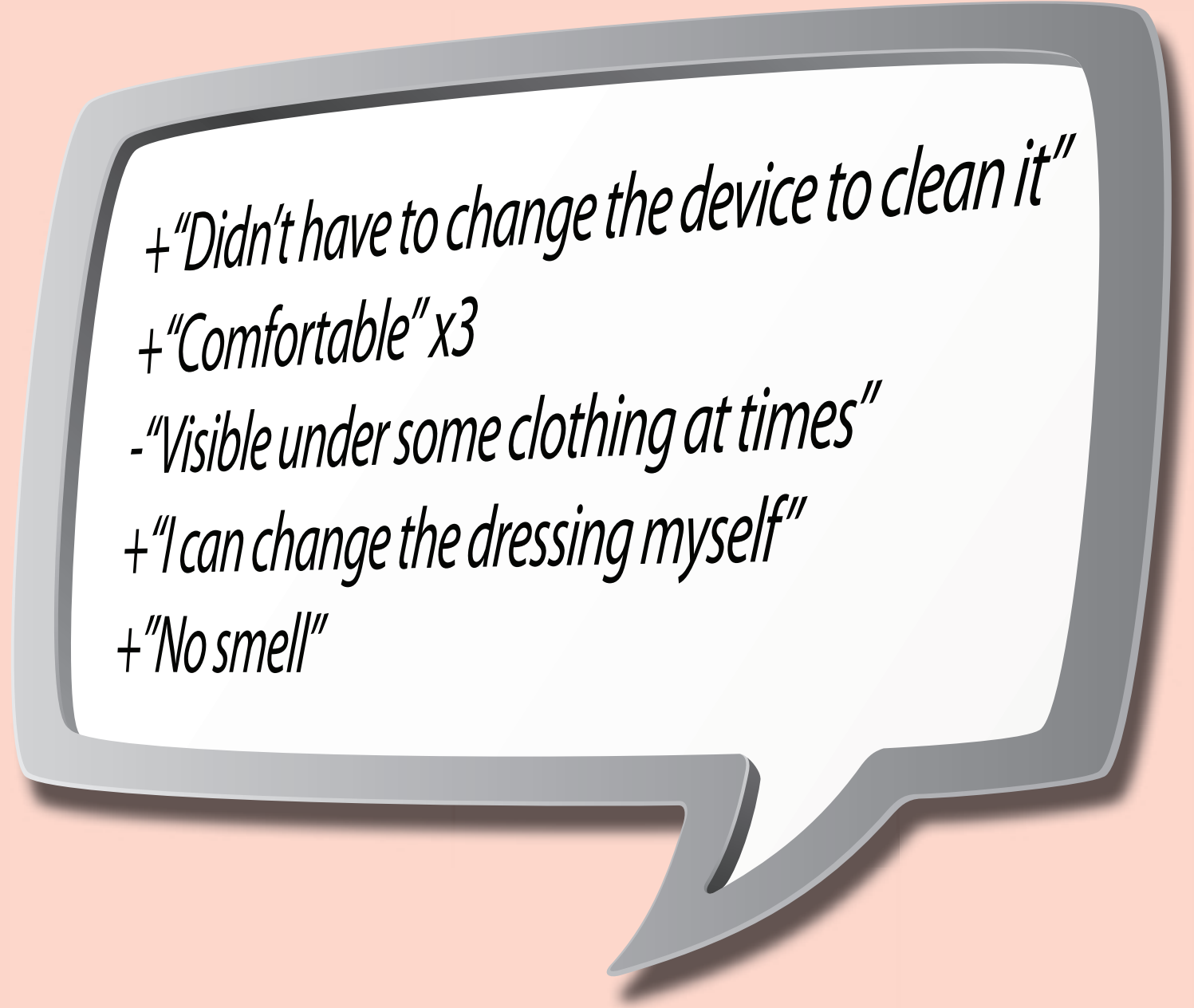


Method

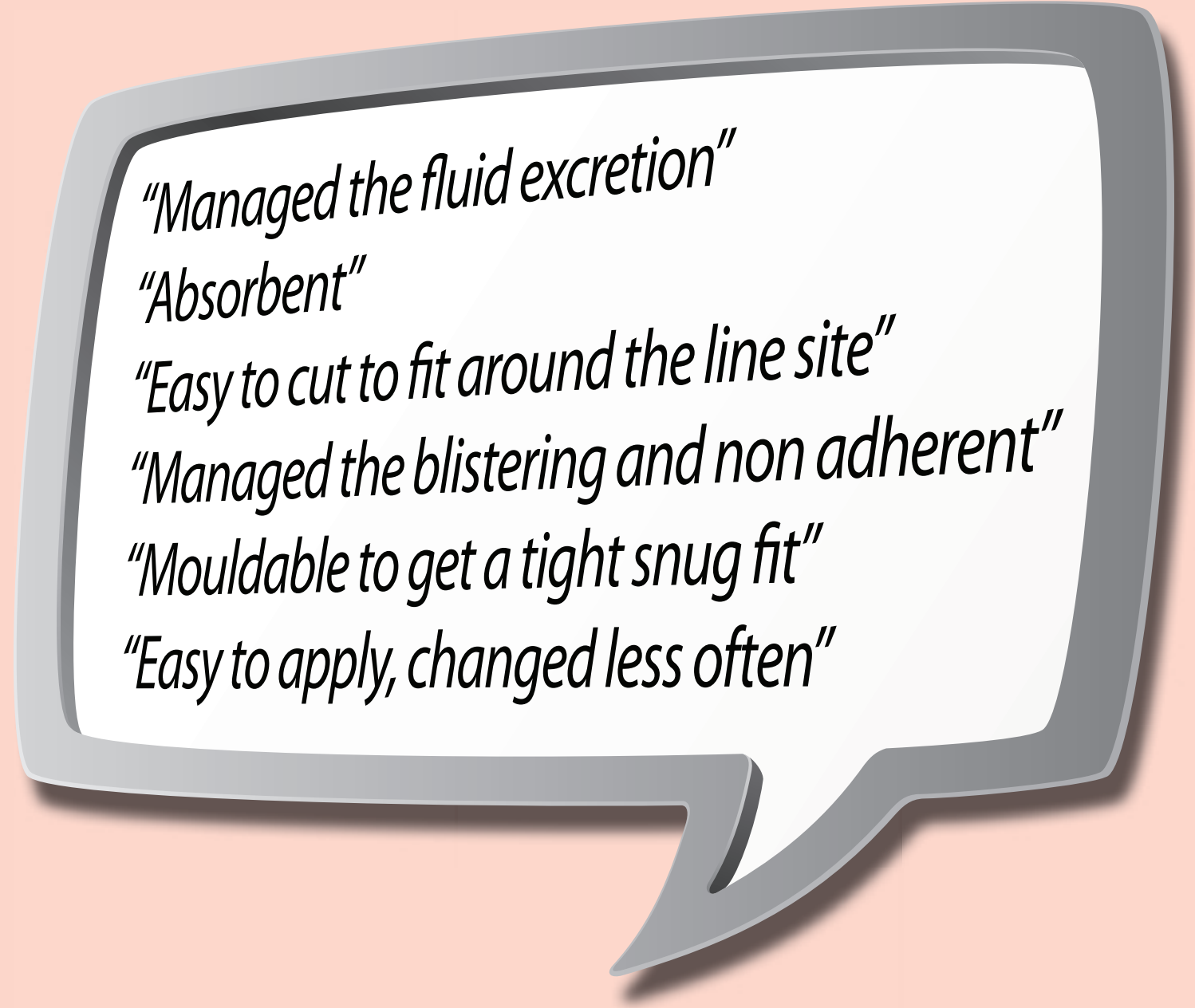
A clinical evaluation method was used. During March 2011, patients arriving on caseload with peri-tube skin complications were, where appropriate, prescribed treatment with the polymeric membrane tube dressings. 5 Patients received the dressings in total. All 5 patients were assessed and reviewed by the same Lead Wound Care Nurse during the evaluation period. An evaluation form was used to record the data for each patient from initial assessment and at each dressing change, up to 5 changes (Fig.3). The peri-tube skin condition and pain scores were recorded at each dressing change. Nurse and patient comments about the use of the dressing were recorded, as was the clinical opinion of product performance vs previous dressing regimes. Photographic consent was unable to be obtained in each of the 5 cases. Representative photographs from other sources are used on this presentation.

Figure 3: Evaluation data collection form

Figure 9: Patients' Comments -



Nurse's Comments -



Results

Skin problems recorded at initiation were either maceration, inflammation, crusts from fluids, hypergranulation or a combination of these (Fig.6). Pain scores obtained in 4/5 patients (one patient sedated so unable to provide scores).

In 4/5 patients pain scores taken at 1st dressing change were reduced from the score on initiation (Fig.7). By the 4th dressing change all patients' skin condition was observed as "Clean/Healthy" skin. One patient did not require a 5th dressing change as skin had healed (Fig.8). The improvement in skin condition correlated with the reduction in pain scores. Patient and nurse comments confirmed ease of use, ability to fit around tube devices, increased comfort and ability to handle secretions. (Fig.9) The new dressings vs previously used dressings were consistently scored 'better' in the clinician's opinion across a variety of clinical outcomes plus patient acceptability and ease of use. (Fig.10)

Fig. 4 and 5 - PolyMem dressings in use on tracheostomy sites



Discussion

PolyMeric Membrane dressings are thin, flexible dressings, containing glycerol and a surfactant. They have been used in the UK in many other wound types, and proven to be effective in inflamed and painful wounds with clinical evidence showing rapid healing and pain/swelling reduction, alongside a reduced amount of manual cleansing at dressing change.^{1, 8-11} Within peri-tube skin management, these properties are highly desirable outcomes and are provided on top of baseline requirements of secretion absorption and padding as provided by the currently used dressings. The ease of use is of interest as patients and carers often need to self-manage in the community, where a limited amount of specialist clinicians are available. Whilst the results are very favourable, the patient numbers in this study are small and if time and resources had allowed, a longer evaluation period would have been preferable to boost patient numbers.

Conclusion

With the high occurrence of peri-tube skin problems, and the known impact that the problems cause to patients, finding a dressing that meets- and solves- more of the specific needs of peri-tube areas is interesting. Initial results on healing progress and pain/inflammation reduction presented here correlate with results seen when used in other wound types. Based on this initial evaluation of suitability for use in this wound type, these dressings met the criteria, offering further advantages over other dressings used for this indication. There are many published studies on the use of PolyMem in other wound types and therapy areas to draw evidence from, but as an initial 'pilot' study, the results presented from this study justify further investigations of greater patient number on this specific indication.

References

1. Lonie G. Polymeric Membrane Tube Site Dressings Improve Tracheostomy Site Management While Increasing Patient Comfort. Poster presented at the Australian Wound Management Association, Perth, Western Australia. March 22-24, 2010.
2. Carolyn Best, Helen Hitchings (2010) Enteral tube feeding - from hospital to home. British Journal of Nursing, 19(3) pp 174 - 179.
3. Ojo Omogorogba (2010) Managing patients on enteral feeding tubes in the community. British Journal of Community Nursing 15(11 Suppl): 4 - 10 November.
4. Crosby J, Duerksen DR (2007) A prospective study of tube and feeding related complications in patients receiving long-term home enteral nutrition. J Parent Enteral Nutr 31(4): 274-7.
5. Claudia Russell (2005) Providing the nurse with a guide to tracheostomy care and management. British Journal of Nursing 14(8): 428 - 433 April.
6. H. Rollins (2000) Hypergranulation tissue at gastrostomy sites. Journal of Wound Care, Vol. 9, Iss. 3, March, pp 125 - 127.
7. V. Ede, S. McGowan (2001) Tracheostomy management revised. Nursing & Residential Care 3(3): 119 - 122.
8. Denyer, J, Stevens L. (2010) Bathing in Epidermolysis Bullosa: benefit over trauma? Wounds UK, Vol.6, No.2.
9. Sessions RC. Can a drug-free dressing decrease inflammation and wound pain? What does the evidence say? Poster presentation 41st Annual WOCN Conference June 2009. St. Louis, MO, USA.
10. Trueman E. (2011) Understanding & Managing Radiotherapy Induced Skin Reactions. Poster presentation at European Wound Management conference, Brussels, Belgium. May 2011.
11. Bode, C., Woodman, H. (2010) Two novel treatments for the prevention and treatment of radiation induced moist desquamation. Poster presentation at College of Radiographers Annual Conference, Birmingham, UK, January 2010.

Figure 1: Photograph of PEG site reproduced with kind permission of Capt. Claire Stevens, Nursing Officer QARANC. Figures 2,4 and 5: Provided with kind permission of Gordon Lonie, clinical nurse consultant, Princess Alexandra Hospital, Woolloongabba, Queensland, Australia.