EVALUATION OF STANDARD DRESSING VERSUS POLYMERIC MEMBRANE FINGER DRESSINGS AND PATIENT OUTCOMES USING PAIN DIARIES

Introduction:
This poster presents the results of a dressing evaluation in 39 patients that included daily patient pain diaries. A standard dressing was compared to the polymeric finger dressing for wound healing by secondary intention in trauma injuries to fingers in the Accident and Emergency Department in a general hospital and minor injuries unit.

Aim:
Table 1: Aims of the study

<table>
<thead>
<tr>
<th>Pain Type</th>
<th>Description</th>
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<tbody>
<tr>
<td>Dull/aching</td>
<td>Continuous</td>
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<tr>
<td>Burning</td>
<td>Intermittent</td>
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- Explore the patients’ perceptions of pain by using a numerical and descriptive pain scale (Wong & Baker 1980).
- Monitor the patient’s sleep patterns in line with injury and pain.
- Monitor the procedures and over the counter analgesics taken.
- The revised score was calculated over a 2-week period.

Patients were randomly selected from the A&E and minor injury unit. The first 19 patients were given standard dressings (SD) and the following 20 patients were selected to have polymeric membrane (PM) finger dressings. The patients ages ranged from 10 to 82 years. Training was delivered to the staff of the A&E and minor injury unit on how to collate all relevant information. Full written consent was obtained from all patients and they were free to withdraw from the audit at any time. This evaluation was registered with the Clinical Audit Department in accordance with trust protocols.

Table 2: Patient information included:

<table>
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<tr>
<th>Age</th>
<th>Sex</th>
<th>Underlying medical conditions</th>
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Method:
An audit was undertaken of 39 patients (29 males, 10 females), presenting with finger injuries. Patients were randomly selected from the A&E and minor injury unit. The first 19 patients were given standard dressings (SD) and the following 20 patients were selected to have polymeric membrane (PM) finger dressings. The patients ages ranged from 10 to 82 years. Training was delivered to the staff of the A&E and minor injury unit on how to collate all relevant information. Full written consent was obtained from all patients and they were free to withdraw from the audit at any time. This evaluation was registered with the Clinical Audit Department in accordance with trust protocols.

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Patients were encouraged to record their perceptions of pain in a daily diary using a numerical pain score (Wong and Baker scale 1998). This pain scale also included pain description (Fig 1/2). Patients were given the opportunity to comment in free text diaries over two weeks. Patients quality of life was collected at the end of the evaluation to see how the dressing had affected their daily life. (Table 1) Nurses commented on dressing performance and ease of application.

Results:
Standard dressing
The standard dressing consisted of non-adhesive contact layer and a cotton tube bandage. This group (n=19) had 6 females & 13 males. The ages ranged from 10 to 80 years. The pain levels continued to be recorded throughout the study (Fig 2) This was not statically significant due to the small sample size. The patients sleep patterns were recorded 6-8 hours' sleep. Pain decreased at 8 days (Fig 2). Within 48 hours 8 had taken ibuprofen, 7 had paracetamol. Six dressing changes were performed by hospital staff, 5 attended the GP practice and 8 changed the dressing themselves. Patient comments (8/19 patients) found the SD poor or very poor, bulkly, and noted that the dressing fell off within a day. Dressing changes were between 1 and 6 days (mean = 2 days). Quality of life was not affected, as patients were able to function as normal and covered the dressing with a plastic bag to shower.

Polymeric dressing
The PM dressing (n=20) 4 females & 16 males. The age range 21-82. The majority of patients recorded 6-8 hours' sleep. Pain decreased at 8 days (Fig 2). Within 48 hours 8 had taken ibuprofen, 7 had paracetamol. Dressing wear time 2-6 days (mean = 3.5 days). 7 of the dressing changes were performed by hospital staff, 5 attended GP practice and 8 patients changed the dressing themselves. All 20 patients rated the PM dressing good/very good, comfortable, conformable, and provided protection. Quality of life in this group; patients were able to function as normal and the dressing allowed them to shower easily without using additional devices.

Conclusion:
The use of patient diaries provided a valuable insight into the quality of life of patients living with trauma induced finger injuries. The experience of pain particularly in sensitive areas such as fingertip injuries exposes nerve endings was worth exploring in this study. (Davies and White 2011) demonstrate the unique properties of the PM dressing reducing somatic pain. Overall the PM dressing was less painful at day 8 compared to the standard dressing (Fig 2). The PM finger dressing was easy to apply and remove and promoted moist wound healing. The SD fell off 1 day after application required frequent dressing changes.

References:

Fig.1. Accumulated descriptive score of patients on the Standard Dressing

Fig.2. Accumulated descriptive score of patients on the Polymeric dressing

Cost Effectiveness:
Cost effectiveness is not just the unit cost of the product, but the time it takes to remove and reapply (Panca et al. 2013). The cost of the SD is £3.75 and the PM is £2.50; the PM dressing proved to be cost effective in this study.

Case study
A 21 year old car sales man who trapped his finger in a car door 7th November 2013, presented to Accident and Emergency Department, topical iodine skin preparation was applied prior to debridement of devitalized tissue, and PM dressing was applied. Initially this dressing was changed every 3rd day within 8 days patients pain score reduced to 0, there was a notable reduction in bruised tissue within one week, patient totally healed by 25th November.