Introduction: Chronic venous leg ulcers (VLUs) affect up to 1% of the adult population in the developed world and present a significant financial and resource burden to the healthcare systems. The prevalence of VLUs in the U.S. is approximately 600,000/year and results in the loss of million working days per year. The annual cost of treating VLUs is estimated at $2.5–3.5 billion in the US. The aim is to estimate the cost-utility of Cadexomer iodine ointment (CI) + standard of care (SC) compared with SC alone using a Markov model in chronic VLUs from a payer’s perspective. SC was compression therapy.

Method: A probabilistic Markov model was constructed to evaluate the cost and clinical benefits of the two treatment modalities over one year period using a weekly cycle length. The outcomes considered were: healed, infection, recurrence and death. Clinical data from a Cochrane meta-analysis of four randomized controlled trials (RCTs) for healing and 2 RCTs for infection was applied to the model.

Results: Treatment with CI over one year was found to give a total cost saving of $1,654 compared with SC. There is a 99% probability that CI is cost effective at $30,000/QALY following 2000 iterations. In addition, patients treated with CI had a faster wound closure 29% compared with 14% at 12 weeks for those treated with SC.

Conclusion: The use of CI ointment improves healing time and can lead to overall cost savings. These results can be used to guide healthcare decision makers in evaluating the economic aspects of managing hard-to-heal chronic VLUs.

* IODOSORB™

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QALY-quality adjusted life years


4. Lindsay G, D Latta, K G B Lyons, E D Livingstone and W Thomson; A study in general practice of the efficacy of Cadexomer Iodine in venous leg ulcers treated on alternate days, Acta Therapeutica 12, 1986, 141-148
Aim: When we look at effective treatments for chronic conditions such as leg ulceration, we often make decisions based solely on clinical effectiveness. We believe that effectiveness should be divided into 4 main categories, namely Clinical Effectiveness, Cost Effectiveness, Patient Satisfaction and Patient Wellbeing.

Method:

- Lindsay Leg Clubs have been using a paper based system measuring healing outcomes and recurrence rates for the past 10 years – this is moving to a digital platform
- Assessing the cost effectiveness of Leg Clubs has now been achieved in Powys, Wales and initial findings from this award winning study are now in the public domain
- In 2011 a member satisfaction questionnaire for 124 members was developed based upon a questionnaire for use in NHS 'walk-in' clinics and piloted across five Leg Clubs in the UK
- A team of health psychologists have completed a detailed assessment on current wellbeing levels and changes in wellbeing while attending a leg club

Results / Discussion:

- Findings suggest that the recurrence rate of Leg Ulcers at Leg Clubs is 50% of the national average
- With over 2,300 Leg Club members, Powys Teaching Health Board has registered net savings of £705,744
- The 2011 study showed very high levels of member satisfaction. Over 98% of members would either recommend Leg Clubs or use them again
- Initial findings suggest that the questionnaire has good internal validity and positive effect on physical health and wellbeing

Conclusion: The above information suggests that the Leg Club model is completely effective in within these four categories.

1. Griffin J. Grobrau GIG Cymru - NHS Wales Awards 2014
2. Clark M. Patient Satisfaction with a Social Model of Care. Wounds UK 2012,8; 1
4. Lindsay Leg Club Foundation (LLCF) CEO Report 2013. LLCF Data on file
Aim: Venous compression concerns a large number of patients, particularly in geriatric area. It was the third biggest area of medical device expenditure in our hospital. The observation that venous compression has been "trivialized" to a certain extent and was no longer considered as a genuine treatment prompted the hospital's "Wounds and Healing" multidisciplinary group to take action.

This group decided to conduct a study designed to achieve a better understanding of current venous compression practices in the context of professional practice assessments.

Method: A first clinical audit was carried out among 10% of our patients in February 2013, and delivered an inventory of compression practices in the acute care, rehabilitation and long-term units. It particularly assessed the existence and quality of prescription, consistency between prescriptions and actual wearing of compression, quality of application.

Results / Discussion: As the results of this audit have revealed real shortcomings in terms of prescription and application of compression, some improvement measures were implemented:

- Training of nursing and medical staff
- Access to all the compression products available in the hospital pharmacy
- Creation and distribution of a technical data sheet on good compression bandage application practices
- Establishment of a washing circuit with the laundry

Conclusion: A second audit using the same tools was performed in February 2014, showing a clear improvement on the practices of venous compression care provided in the hospital and, at the same time, 47% reduction of cost in this area of medical device expenditure.
[EP077] THE STATE OF WOUND CARE IN MEXICO

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1Hospital General de México; Vascular Surgery and Angiology
2Issste; Vascular Surgery
3Issste; Vascular Surgery Nurse
4Isem; Wound Care Clinic

Thursday, May 14, 2015

E-poster session: Health Economics & Outcome

Aim: Show the state of wound care in Mexico.

Introduction: There are different kinds of health services in Mexico: Private and 11 different health services. Few of them have a wound care facility, and the human resources are hardly trained for advanced wound management.

Method: In some hospitals of public health the wound management has been established. The ISEM has 12 wound care centers, has it’s own budget, managed by nurses. In the first semester of 2014 they did 2,888 procedures: 30% diabetic foot (DF) and 23% venous ulcers (VU). In the Hospital General de México the Wound care facility was created in March 2014, runned by nurses, with no assigned budget. The patients buy the specialized dressings, hospital provides basics for procedure. Last semester in the out-patient care: DF 55.6%, pressure ulcers 14.2%. In the in-patients: pressure ulcers 70.5%, surgical site infections 8.3%. In the CMN “20 Nov” the wound care facility has its own budget, aproximately 30% of the budget of the Angiology and Vascular Surgery department. It has access to all specialized dressings. The head of the department is a vascular surgeon. In the last semester the procedures done in ischemic ulcers were 30%, VU 22% and neuropathic DF 12%. In private practice only 4-7% of the population have insurance, but all patients have access to advanced wound management.

Results/Conclusion: We are a country in which the education in wound care is starting but we need more training. We need randomized controlled trials to standardize our managements. The authorities have to realize that implementing detection and wound care programs the cost-benefit attention will benefit the institutions and patients.
Aim: To assess the clinical and cost-effectiveness of using a two-layer cohesive compression bandage* compared with a two-layer compression system** and a four-layer compression system*** in treating venous leg ulcers (VLUs) in the UK, from the perspective of the National Health Service (NHS).

Method: This was a retrospective analysis of the case records of VLU patients randomly extracted from The Health Improvement Network (THIN) database (a nationally representative database of clinical practice among patients registered with general practitioners in the UK) who were treated with either TLCCB, TLCS or FLCS. Clinical outcomes and healthcare resource use (and costs) over six months after starting treatment with each compression system were estimated. Differences in outcomes and resource use between treatments were adjusted for differences in baseline covariates.

Results / Discussion: Table 1 summarises patients’ baseline characteristics.

<table>
<thead>
<tr>
<th></th>
<th>TLCCB</th>
<th>TLCS</th>
<th>FLCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cohort size</td>
<td>250</td>
<td>250</td>
<td>175</td>
</tr>
<tr>
<td>Mean patient age (years)</td>
<td>74.7</td>
<td>74.5</td>
<td>76.9</td>
</tr>
<tr>
<td>Percent female</td>
<td>53%</td>
<td>62%</td>
<td>55%</td>
</tr>
<tr>
<td>Mean age of wound (months)</td>
<td>6.9</td>
<td>6.1</td>
<td>6.7</td>
</tr>
<tr>
<td>Mean initial wound size (cm²)</td>
<td>77.6</td>
<td>77.0</td>
<td>85.2</td>
</tr>
</tbody>
</table>

Table 1

51% of wounds in the TLCCB group healed by 6 months compared with 40% (p=0.03) and 28% (p=0.001) in the TLCS and FLCS groups respectively. Mean time to healing was 2.5 months. Patients in the TLCCB group experienced better health-related quality of life (HRQoL) over 6 months (0.374 quality-adjusted life years (QALYs) per patient), compared with the TLCS (0.368 QALYs per patient) and FLCS (0.353 QALYs per patient) groups. The mean 6-monthly NHS management cost was £2,413, £2,707 and £2,648 per patient in the TLCCB, TLCS and FLCS groups respectively.
Conclusion: Real world evidence demonstrates that treatment with TLCCB, compared to the other two compression systems, affords a cost-effective use of NHS-funded resources since it resulted in an increased healing rate, better HRQoL and a reduction in management cost.

*Coban 2

**Ktwo

***Profore
Objective: To retrospectively investigate the causes, location and the duration of hospital stays of the hospitalized patients with hard-to-heal wounds so as to provide data guidance for the prevention and research of these diseases.

Methods: Clinical data of hospitalized patients with hard-to-heal wounds, in plastic surgery center of General Hospital of Guangzhou Military Command, were collected from June, 2011 to December, 2013. Ulceration wasn’t recovered in the patients with skin tissue defect after 2 months treatment was regarded as the standard to screen the patients with hard-to-heal wounds. The causes, location, age and the duration of hospital stays of the hospitalized patients with hard-to-heal wounds were investigated by retrospective case-control method. Chi-square test and t-test were used in analyzing the investigation. Results: 2136 cases, aged from 20 to 86, were treated in plastic surgery center of the hospital. (1)120 cases with hard-to-heal wounds constituted 10.72% of all hospitalized patients. (2)Metabolic disease was the main causes of wound (43.3%), followed by wound infection and tumor (20.0% for each) ($\chi^2=62.917, P<0.01$). (3)The peak age was 40~60 years followed by that in 60~80 years. (4)Limbs was the predilection site(61.6%), most often occur on the foot(38.3%)($\chi^2=17.546, P=0.002$). (6) The average days for hospitalization of in the plastic surgery center were (7.41±8.98), while the average days for hospitalization of the patients with years were (33.21±28.27) ($t=-9.968, p<0.05$).

Conclusion: The average diagnostic age of patients with hard-to-heal wounds was the middle and old aged patient. Chronic skin ulcers, often occurring in a limb, seriously affected a person’s ability to move; which can prolong hospital stays, crushing serious burden of the families of patients and the society.
FUNCTION OF THE DRESSING CHANGE CENTER IN THE WOUND CARE CONSULTATION FOR INPATIENTS

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Thursday, May 14, 2015

E-poster session: Health Economics & Outcome

Objective: To explore the application and effects of dressing change center in the wound care consultation for inpatients.

Method: The methods included developing consultation process, outpatient clinical evaluation process, bedside wound care consultation process, and carrying out inpatient wound dressing bedside consultation and treatment services in the outpatient dressing change center.

Results: The recovery rate of inpatients’ wounds, the wound care quality and patients' satisfaction were improved, the cooperation nursing between departments was enhanced.

Conclusion: The patients received professional wound care by developing the consultation services. In addition, this service also contributes to the share of the wound care knowledge, and improves the wound care quality.
Aim: The primary aim of this research was to investigate wound management nurse practitioner (WMNP) models of service for the purposes of identifying parameters of practice and how patient outcomes are currently measured.

Method: A mixed-methods, exploratory, single case study, with embedded units of analysis in four purposely selected WMNP models in Australia was conducted. Measurements to identify parameters of practice and patient outcomes included: interviews with the WMNPs, focus groups with patients, questionnaire of multidisciplinary team members, observation of the service context, and data abstraction of patient medical records. Within and between case analyses were used to draw conclusions from the study as a whole.

Results / Discussion: The results of this research yielded important information on WMNP models of practice in the Australian context, including data on patients’ problems managed, the types of interventions implemented, the resources used to accomplish outcomes, and how outcomes are currently measured.

Conclusion: Measurement of outcomes is essential to demonstrate efficacy of WMNP models of service. Nationally consistent data collection on processes of care and patient outcomes supports ongoing development of the WMNP role. The results of this research will be used to develop a national data registry and minimum data set so that WMNPs have a tool for the purposes of benchmarking and to establish clear criteria to measure practice and patient outcomes.
Aim: To investigate patient outcomes of Australian wound management nurse practitioner (WMNP) models of service.

Method: A purposive sample of four WMNP models was selected to participate in the study. Data were abstracted from a random sample of patient medical records that had received treatment within a 30 day period. A data abstraction instrument was used to guide the systematic retrieval of information on patient outcomes.

Results / Discussion: Data were collected from 51 patient medical records. The mean age of participants was 70 ± 12 years. The average distance that patients had to travel was 6.6 kilometres (range 1 – 1568). The mean occasions of service was two ± 3, with an average consultation time of 35 ± 19 minutes. The most common wound type was venous leg ulcer (n=17). For almost half, the wound was recurrent. The most common intervention performed was wound assessment (n=47), followed by monitoring or follow-up of the patient, and a range of other wound-related procedures.

Conclusion: This research has yielded important information on WMNP models of practice in the Australian context. To date, the types of patients that WMNPs treat and the therapeutic interventions that they perform has been largely unknown. Results of this study highlight the need for a method of data collection, such as a national data registry, that more easily enables WMNPs to measure outcomes of care they provide.
[EP083] TWO-LAYERS THERAPEUTIC STOCKINGS FOR COMPRESSION THERAPY - COST SAVINGS-

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Thursday, May 14, 2015

E-poster session: Health Economics & Outcome

**Aim:** It is unknown how many patients are treated with compression therapy. However, this therapy has a key role in the treatment of venous disorders such as chronic venous insufficiency, deep vein thrombosis and varicose veins, but also in non-venous disorders such as lymphedema, post-traumatic and erysipelas. There are different methods to apply compression therapy. The most common used method in the Netherlands is the two layer-short stress bandages (SSB). However, two-layer therapeutic stockings (TS) has several advantages. And even an important issue nowadays, which is not to be forgotten, the cost! This study provides an overview of the difference in time, with respect to the provision of the compression therapy.

**Method:** Forty-eight people of varying levels of education and experience had to administer compression therapy on the same leg. The leg was treated with the SSB and the same leg was used to put on a TS*. The time of applying the compression was measured.

**Results / Discussion:** The time of construction of SSB on 48 patients took three hours and 48 minutes, the time to attract the TS took 44 minutes.

**Conclusion:** The time saved in the TS is three hours and four minutes with 48 patients. This time saving has been providing 202 euros and 40 cents, assuming care costs 1.10 euro per minute. However, many patients can attract these TS by itself because the top stocking slides easily over the under stocking, therefore the savings will be even greater in actual practice.

*Artico silk, LenR
Background: Patient-relevant treatment benefit is traditionally measured with health-related quality of life (HRQoL) instruments. The Patient Benefit Index (PBI) methodology allows for a more direct measurement with the patients rating both importance and achievement of treatment goals.

Aim: Development and validation of a PBI version specific for the assessment of benefit in lymphedema and lipedema treatment (PBI-L).

Method: The development included five steps: 1. open item collection; 2. consensus of items in a multidisciplinary expert panel; 3. application of the German PBI-L in a cross-sectional study (n=301); 4. translation into English; 5. application of the English PBI-L in an RCT (n=82). Subscales were developed using factor analysis. Construct validity was analysed by correlating PBI-L and convergent criteria such as HRQoL and quality of care. To test for responsiveness, the association to change in HRQoL measures was computed.

Results / Discussion: Floor and ceiling effects were low. There were few missing values. Two well-interpretable subscales were found with Cronbach's alpha >0.8. Global and subscale scores correlated with convergent criteria and with change in disease-specific HRQoL, but not with change in generic HRQoL.

Conclusion: The PBI-L is an internally consistent, valid, and responsive instrument for the assessment of patient-relevant benefit of edema treatment.
Aim: The interest of a dressing* for the management of patient with dermo-epidermal thin graft as outpatient.

Method: 30 patients who benefit from dermo-epidermal thin graft where managed as outpatient due to the use of a dressing* which was apply just after the realization of the graft in the operating room. A silicon sheet was used as interface. Then the patient leave the hospital immediatly (19) or the day after (11) (depending on the anesthesiologist). The first dressing was realized between day 4 and 6. The patient was asked to live normally with some precaution (no sport etc.).

Thirty patient were treated by this manner during the last 6 months. The aethiolgy of the wound was burn (20), surgical excision (6) and tramatism (4) and the average surface was 47 cm$^2$ (9-120).

Results: We have got one technical problem of the device (leakage). All the patient consider the engine as pleasant, no painful and not noisy. They all appreciate that they can live quite normaly, can wear the garnment they want and that they were not hospitalized, 4 of them could continue to work at home. More than 80 % of the graft was taken for all patients except one. All the patient were healed at day 30.

Conclusion: The apply of a dressing* after dermo-epidermal thin graft allowed us to discharge the patient from the hospital. The rate of succes in our series is equivalent or superior than with our previous protocol. This change of manner is interesting either for the patient and from an economic point of view.

*PICO
Aim: Our study was done to determine the cost-effectiveness of negative pressure wound therapy (NPWT) and total contact cast (TTC) in the healing of heel diabetic foot ulcers (DFU). The main objectives of the study are to spread such methods of healing, improve the effectiveness of treatment, cut down the time and cost of therapy in the group of patients with DFU.

Method: 5 patients with heel DFU treated and healed at our clinic on the outpatient basis, were retrospectively observed. All patients among observed group were treated using both methods.

Results / Discussion: In the observed group, where both methods mentioned above were used, it was ascertained significant efficiency of healing. The time of using both methods together was averagely 31,5 days. The time needed to total wound healing was averagely 135 days. By comparison, in the Eurodiale study conducted on 1000 diabetic, median time to healing for heel ulcers was 237 days. The costs of the all therapy born by patients in our study were averagely 2553€. By comparison, in the Eurodiale study was averagely 10000€.

Conclusion: NPWT therapy is useful in the treatment of diabetic foot but still great “gold standard” of healing plantar DFU is TTC. The connection of both techniques of wound healing such as NPWT and TCC enables fast and well prepare ulcers using for secondary closure in good time and very good method of offloading. The costs born by group of patients with heel DFU treated with using NPWT and TCC together are lower from the costs born during healing using other methods, mainly by cutting the time of the treatment.
Aim: To investigate dressing usage and costs associated with multi-national clinical evaluations of a next-generation antimicrobial dressing (NGAD)*.

Method: 113 patients with wounds suitable for treatment with antimicrobial dressings (or where infection or biofilm was suspected) were included in the evaluations. Wounds were categorised at baseline as improving/stalled/deteriorating and published cost estimates of the antimicrobial dressing components of wound care** were assigned to these wound states. Following the evaluations, the number, size and costs of dressings used were analysed, along with treatment durations and wound progression observed at endpoint.

Results / Discussion: At baseline, 23% wounds were improving, 58% were stalled, and 19% were deteriorating. The average treatment period for all wounds was 4.1 weeks, with an average wound reduction of 74%. 2% wounds enlarged in size, 3% remained unchanged, 78% reduced in size and 17% healed. The estimated cost savings due to NGAD within a protocol-of-care were 29%. This data suggests that use of NGAD in recalcitrant wounds can not only improve wound healing, but can reduce the dressing component cost of wound care.

Conclusion: NGAD appears to be an effective antimicrobial dressing for difficult-to-heal wounds where infection or biofilm may be contributing to wound recalcitrance. Shifting wounds onto a healing trajectory improves outcomes and results in cost savings.

* AQUACEL® Ag+

[EP088] QUANTIFYING THE COST SAVINGS OF TWO COMMONLY USED SILVER DRESSINGS IN PATIENTS WITH DEEP PARTIAL THICKNESS BURNS

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¹Smith & Nephew Wound Management

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E-poster session: Health Economics & Outcome

Introduction: Burn injuries result in 40,000 admissions annually in the US including 30,000 at specialist burn centres¹ and hospitalized patients costs $1bn/ year². It is therefore imperative to adopt interventions that meet the patient, clinician and payer’s need of improved outcomes and value for money. This work aimed to quantify the economic value of two commonly used antimicrobials Silver Barrier dressing (SBD) and Silver Hydrofiber dressing (SHF) with standard of care (SC) in the management of patients with deep partial thickness burns from a US payer’s perspective.

Method: An economic model was developed to calculate the cost and potential savings that could be achieved by using either SBD or SHF considering reduction in length of stay (LOS), infection, surgical procedures including dressing costs. We synthesized published effectiveness data SBD³-⁶, SHF ⁷-⁹ and resource use data to populate the model.

Results/Discussion: Using a hypothetical cohort of 100 patients, SBD resulted in 14 infections, 20 surgical procedures and 780 hospital bed days, at an estimated cost of $25,102 per patient compared to SC. SHF resulted 20 infections, 28 surgical procedures and 901 hospital bed days at an estimated cost of $27,387 per patient compared to SC.

Conclusion: Current evidence from published data suggests that when both SBD and SHF dressings are compared to SC, the cost per patient is less with SBD by about 8% in patients with deep partial thickness burns. This is due to better outcomes in reducing infections and surgical interventions and LOS seen in SBD when compared to SC.

SBD = ACTICOAT◊, SHF = Aquacel™ Ag
◊Trademark of Smith and Nephew, ™All Trademarks acknowledged