

Treatment Variations in Pressure Sores Between Hospital and Home Care

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The purpose of this poster is to show how many differences in dressing regimes there can be, even in a small country. We will discuss the treatment variations and average outcome of several kinds of wounds treated in a hospital and those treated at home.

The hospital setting differs a lot from the one at home. The qualification of the nurses are not different in the home or hospital setting. The only difference seems to be the better opportunities for nurses to try different dressing regimes in a hospital in comparison with the nurses working in the home care. The goodwill of the doctors is also at stake.

I. The Amount of Wounds Treated in the Hospital

Pressure Sores: During a survey carried out to determine the prevalence of pressure damage in our hospital (a 314 bed regional hospital in Belgium), we found that there were 297 patients who had been treated for pressure sores over a 26 month period. This makes an overall prevalence of 5.2%. About 131 patients developed the pressure sore in the hospital which is about 2.4% incidence for our hospital. The bed sores also developed in the hospital were mostly a class 2.

Traumatic Wounds: About 38 patients with traumatic wounds were taken care of in the same period.

Leg Ulcers: The leg ulcers we see in the hospital are mostly arterial insufficiencies which are surgically treated. They are treated in a conservative (dry) way.

Burns: We treated about 26 patients in the two year period with burns.

All other wounds in the hospital are considered to be surgical sutured wounds dressed with a absorbent gauze dressing and they were not taken into account for the survey.

Treatment Variations:

Although there is a large number of treatments available in Belgium, we tried to group them as much as possible. The amount of wounds considered in this survey was 370:

- 26% were treated with Betadine Cream and gauze, changed daily.
- 24% were treated with *Elasto-Gel™* (Southwest Technologies, Inc.)
- 20% were treated with DuoDERM®/Comfeel®
(hydrocolloids - Convatec Ltd./Coloplast Ltd.)
- 12% were treated with IntraSite* Gel and OPSite* (Smith & Nephew, Ltd.)
- 6% were treated with Silver Sulfadiazine Cream (Flammazine Duphar, Ltd.)

5% were treated in a dry way with gauze only
2% were treated with Allevyn* (Smith & Nephew, Ltd.)
5% Miscellaneous

The average healing time was 5.7 weeks.

II. The Amount of Wounds Treated at Home

The amount of patients treated at home was 1,718. About 26% were leg ulcers, 25% bed sores, 18% surgical wounds, 8% small trauma, 4% burns and 19% were combinations. 96% of the 1,718 patients received a dressing on their wound. Only 8% of those dressings were “high tech” dressings, mostly hydrocolloids. About 86% of the dressings were “non-high tech” dressings.

Treatment Variations at Home

58% Betadine Cream
26% Dry Gauze
13% Tulle Impregnated Gauze
5% With Powders

There is a nursing ritual to treat almost every wound with an antiseptic (81% of all wounds were disinfected). The main issue in wound care at home is the disinfection of the wounds. This might explain the excessive use of antiseptic ointments like Betadine Cream.

The average healing time for the wounds treated at home was 7.3 weeks. The average treatment time for the leg ulcers at home was 12.7 months.

Discussion

We found it difficult to compare both groups of patients since we do not know the severity of every wound. The main problem is the big difference in healing time between a leg ulcer and other wounds. Since we have almost no leg ulcers in the hospital, we cannot compare healing time correctly with the home situation. Anyway, just the fact that the use of moist dressing techniques differ so much, is an interesting thing to examine. Due to the survey from Wouters a.o. The National Home Care Nursing Association launched a big campaign for all their nurses so that they can learn more about modern wound care. Recently, after completion of the courses, they found that the doctors who prescribed those dressings need an extra course to have a thorough understanding of the wound care program. In the following case reports we will explain why we use “high tech” dressings. We could not only show them better healing results, but we also found that the patient comfort and the nursing labor intensity was improving.

Why Do We Use *Elasto-Gel™* on Pressure Sores?

We have many bed sores in the geriatric and internal (pneumology) ward. On the third place we have the orthopedic ward. The localization of the bed sores is seen mostly on the heels (47%), buttocks (42%), back (5%), legs and arms (5%) and head (1%). The patients who are staying in the geriatric and orthopedic wards are, if the condition will let them, kept under an active rehabilitation program. One of the items of the program is learn to walk again. When those patients have ulcers on the heel they walk on the dressing.

We used to place hydrocolloids on these heel ulcers, but when the patients walked on them they simply broke into pieces very soon (after a few hours). When we applied *Elasto-Gel™* we were able to keep the dressing in place for at least a week, even when the patient was undergoing an intense rehabilitation program. An ulcer on the heel treated with *Elasto-Gel™*, we could conserve the living fat cells for over one month (patient was stable enough for operation) till the flap operation was performed. In some cases strong offensive odors (fungating wounds) could be eliminated.

III. Traumatic Wounds

The traumatic wounds are treated mostly in the orthopedic ward and there are about two patients a month with serious traumatic wounds to treat. Small trauma's are usually surgically treated and they differ not much with the standard surgical wound treatment. Serious traumatic wounds require even after surgery special wound care. We are especially interested in these cases that doctors normally would amputate the leg and where good wound care can prevent this amputation. The treatment variations of this kind of complex wounds are easier to cover since the lower incidence. For large defects (surface) we always use *Elasto-Gel™*, alone or in combination with Betadine®, Silver Sulfadiazine cream and sometimes with hydrocolloids. For deep open wounds we use Ca-Alginates. The leg of a 24 year old male was crushed due to a motorbike accident and was scheduled for amputation. We asked the doctors if we could try this new dressing material to save the limb. The doctors agreed and the leg was saved. Because of eminent gangrene hyperbaric oxygen once a day together with daily cleansing with a physiological cleanser was prescribed. During the whole treatment the wound was covered with *Elasto-Gel™*, 30cm x 30 cm, every 24 hours and covered the whole leg. The use of *Elasto-Gel™* was essential to keep all tissues alive and prevent further contamination.

IV. Burns

Since we are a regional hospital we only treat burns smaller than 10% of the body surface burned. In most cases we have children with scalds and adults burned by flames. We have about 20 patients a year with serious burns. About 65% is a deep second degree burn and only 10% have serious overall third degree burns. The rest is a mixture of all degrees. The standard treatment of burns is Silver Sulfadiazine cream (SSD) but since we know that the Silver particles in the cream are irritating we have chosen for an other standard treatment in our hospital. SSD has the potential to preserve viable dermal tissue but the epidermal regeneration is rather slow and irritated, while the formation of granulation tissue is pronounced, with an abundance of myofibroblasts¹. This abundance of myofibroblast is a possible case of hypertrophy scars.

We use SSD the first day for killing the germs on the burned skin, but then we cover the wound with large pieces of *Elasto-Gel™*. In the first days these hydrogel sheets can be left for at least 3 days. As wound exudate diminishes the hydrogel sheet can be left for one week or longer. Wound healing is enhanced and patient comfort is seriously improved. We had no signs of infection during the treatment with *Elasto-Gel™*.

A 46 year old female burned herself while cooking some water. When she arrived in the hospital we found a deep second degree burn about 8% body surface. She was treated the first day with SSD cream. After debridement of the death tissue we applied *Elasto-Gel™* sheets (30cm x 30 cm). At first we had to change the dressing every 3 days. After 10 days she could leave the hospital and the dressing was changed every 7 days. During the first days, pain after *Elasto-Gel™* was applied was reported. This is due to the heavy absorption of wound fluid by the dressing. The pain should be treated with pain medication.

Another case is about a 48 year old male who burned his hands in a chemical factory with an acid solution. It was a second degree burn wound. The wound was treated with *Elasto-Gel™* only and it took 12 days for complete healing.

First Aid Situations

Since we found out that *Elasto-Gel™* has a bacteriostatic effect, we started using it on first aid wounds. Such wounds are usually small, superficial and heavily contaminated with dirt. Especially burns and wounds with street tar can be covered easily with *Elasto-Gel™*. The local Red Cross organization did use a lot of *Elasto-Gel™* during the World Championship Roller-Skating. The athletes who fell showed typically superficial street rash wounds. By applying an *Elasto-Gel™* sheet they were able to continue the championship.

Because *Elasto-Gel™* is easy to apply on a wound and because of the direct cooling effect it became the first choice dressing for burns and street wounds for the Belgium Red Cross.

(In Belgium, *Elasto-Gel™* is called Novogel•)

¹ M.J. Hoekstra, e.a., A comparative burn wound model in the New Yorkshire pig for the histopathological evaluation of local therapeutic regimens: silver sulfadiazine cream as a standard, *British Journal of Plastic Surgery*, (1993), 46, p. 585-589.