

The use of Activon® Manuka honey on electrical burns

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A high voltage (7620v) injury was sustained on Feb 8th 2014 when B was climbing a mango tree to harvest fruits. The high branches of the tree had obscured the mains wire running through it. At the time of the accident, the local co-operative power company were carrying out safety tree lopping. The patient had not heeded warnings to desist from climbing the tree. Six wounds were sustained each to the right wrist, left thigh, left popliteal fossae and right popliteal fossae, right great and middle toes. The child was immediately taken to a nearby private hospital for treatment. Admitted under the care of a general surgeon, B underwent two surgical debridements under general anaesthesia. No skin grafting occurred following debridement. Sofratulle and roller gauze bandage was applied to each wound.

February 15th 2014: First visit by the BUBZ team, Sr. Val Smith-Orr and volunteer RN Tony Wulkow (Germany). The team were asked to assist by the Power cooperative social welfare manager.

Thanks to the surgeon for allowing us to do a burns dressing bedside.

On examination, the remains of the Sofratulle and a roller gauze bandage was in situ on four of the six wound areas. Gauze was applied to the right great and middle toe. No splinting or physical therapy to date and contractures of both knees and the right wrist had begun. Evidence of foot drop was present with the position of comfort due to bed rest since admission. The dry gauze was removed by the Doctor using no saline soak or irrigation, thus bleeding occurred from shearing of epithelial tissue.

There was an estimated 15% TBSA mostly full thickness, deep dermal two small areas on the right thigh.

Dressings used by the BUBZ team:

All areas: Primary: Algivon® or Activon® Tulle (Medical grade Manuka honey) Secondary: Advazorb® hydrophilic foam, secured with an orthoban and crepe bandage.

The patient would benefit from skin grafting to his wrist and both popliteal fossae as they are full thickness burns. He is right hand dominant. He will need intensive physical therapy, splints to prevent position of comfort and contractures of associated knee and wrist joints which have started already. The total burns surface area (TBSA) is relatively small in percentage but are full thickness and in skin fold areas with high risk of contracture if therapy not initiated early.

B was discharged the next day, with a review in our clinic on Feb 19th and a Surgeon review on Feb 20th. NB Medical illustrations were given to the Surgeon, so as not to disturb the dressings.

B attended the BUBZ clinic as an outpatient regularly, approximately every 5-7 days and spontaneous healing occurred. Scar management and contracture prevention commenced from the first visit and will continue for up to two years post healing. Physical therapy was encouraged from first visit and B and his parents needed a lot of encouragement, since the Filipino way is not to move any injury. The BUBZ team developed some creative methods of therapy! Hygiea orthopaedic splints were used to prevent contractures of the knees and right wrist in the first six months. A silicone gel sheet (Advasil® Conform) is used daily, placed on clean dry skin immediately after coming home from school and all weekend. Pressure garments are worn during school time as well as over the silicone gel. Clinic visits are to continue monthly for up to two years or when scar maturation has been achieved, whichever comes first.

In August 2014, won a badminton competition at school.

Visit 1: February 15th 2014, 8 days post burn, in hospital, 2 surgical debridements under G.A to date.



February 19th 2014 BUBZ Clinic



Right wrist

Dressed with Algivon®



Right popliteal fossa, dressed with Algivon®, Activon® Tulle to thigh



Left thigh – was then dressed with Activon® Tulle & Advazorb®

Continued...



Left popliteal fossae with Activion® Tulle in situ prior to Advazorb® secondary dressing



Right toes

March 13th 2014



Left pop fossa

...with Activion® and Eclipse® Border



Left thigh

Right pop fossa



Left wrist - tissue granulating over tendon

...with Activion® Tulle

May 23rd 2014



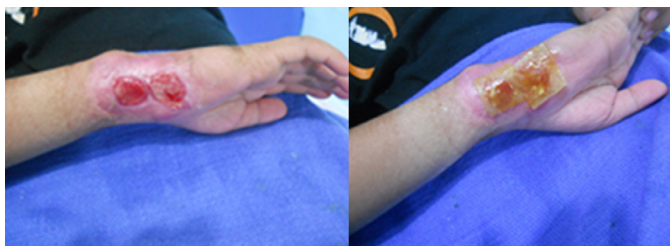
Right pop fossa

...with Activion® and Eclipse® Border



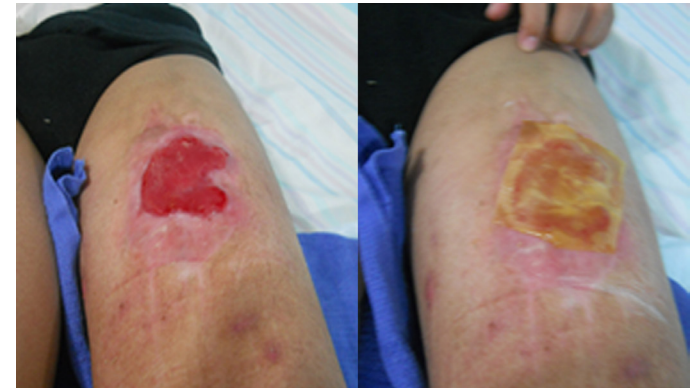
Right pop fossa

...with Activion® Tulle



Right wrist

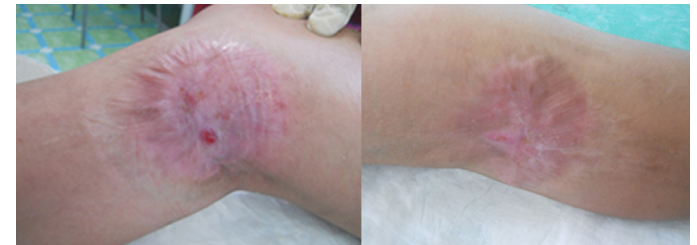
...with Activion® Tulle



Right thigh

...with Activion® Tulle

September 6th 2014



Right pop fossa



Right wrist

Continued...



Right thigh

Worst case scenario

If the BUBZ team had not been called on to assist in the healing of this patient and the surgeon chose not to agree to allowing us to do a bedside visit the following scenario could be speculated (based on other true life observations of burns treatments in Luzon):

By following the hospital policy on burns treatments, the patient may have been subject to regular debridements

(e.g every 2 days) under G.A thus necessitating NPO from 12 midnight the night before up until after 7pm the next night as it's usual for burns cases to be last on the list due to the likelihood of infection. This would have further decreased his already low nutritional status, decreased pain tolerance and caused very slow healing.

The patient's parents may have been asked to wash the wound areas once/twice or three times a day before applying Sofratulle or SSD ointment and covering only with a single layer of gauze or a restricting roller gauze bandage.

He may have remained in hospital for many days with skin grafting occurring (if at all) many days after the initial injury. Skin grafting equipment costs ten thousand pesos to hire + surgeon and anaesthesiologist fees could see an expense of 30k pesos each visit to the operating room.

Meanwhile the patient would have remained on bed rest with little or no physical therapy and no active contracture or scar prevention. In just a short time his knees and wrist would have contracted permanently, rendering him with very limited leg mobility and limited use of his right hand, his dominant hand. He may not have been able to continue with his education due to physical disability.

He may have required 'tendon surgery' to the wrist. He may have had a leg straightening procedure (Ilisarov). If he had continued to have an infected (colonised) wound with over granulated tissue he may have developed circulatory problems to the lower limbs leading to gangrene and necrosis. He could have had bilateral above knee amputations. Rehabilitation of limbs would have been delayed and hip flexion would have caused a problem in getting well fitting prosthetics. B would have experienced phantom pains in his amputated legs and suffered severe psychological trauma, known to lead to depression and further immobility.

All of this would have been very costly, possibly in the range of 750,000 – 1 million pesos and would not have included prosthetics.

The pressure and stress may have been too much for even the most dedicated parents and the family may have experienced temporary or permanent dysfunction. B would have been confined to a wheelchair and would have lost his childhood - and any foreseeable future as a happy active child growing to be a productive adult.