An adhesive hydrocellular dressing in the treatment of paediatric patients with extensive soft tissue trauma.

Geatano de Vincentis*, MD, Giuseppe Caracciolo*, MD, PhD, A. Anselmi, RN, A. Andriessen** RN, MA, CNS, S. Rowan***, RN, CNS.

*Ospedale Pediatrico “Santobono” Azienda di Interesse Nazionale ad Alta Specializzazione Via M. Fiore, 6-80129 NAPOLI, ITALIA. ** ICS, Maiden, NETHERLANDS. *** San Casciano (FI), ITALY.

INTRODUCTION
This paper describes the effective performance of an adhesive hydrocellular polyurethane foam dressing in combination with a hydrogel in the management of 2 children with extensive soft tissue trauma. In degrading, skin and subcutaneous fatty tissue are torn off the underlying fascia by a strong tangential crushing force. The management of complicated fractures in combination with extensive soft tissue trauma due to degrading is complex, especially in young children. As the blood vessels are also damaged, the detached flap of skin becomes necrotic due to lack of blood supply. When all parts of the body are detached, a distinction is made between total and subtotal amputation. In some cases re-transplantation is possible. The treatment consists of surgical intervention, in combination with complex wound management. Secondary healing should be attempted due to the risk of infection.

Current wound management regimes comprise tulle gauze, standard absorbent dressings or gauze impregnated with disinfectants. The disadvantage of tulle gauze and many other contact layers is that in some instances it may adhere to the wound, thus causing damage of granulation tissue and discomfort upon removal of the dressing. ALLEVYN® Adhesive is shown to be effective in the treatment of various wound types by secondary intention. Comparative studies have shown that ALLEVYN Adhesive encourages rapid healing. The dressing is easy to use, reduces pain and does not cause trauma to the wound site on removal, suggesting improvements could be made for the above mentioned indications compared to conservative dressings.

THE STUDY
The present dressing regime involves paraffin gauze covered with standard absorbent dressings. Dressing changes take place up to three times a day, depending on the wound condition. In deep wounds, Povidone iodine soaks are used to fill out the cavity wound, and covered with a standard absorbent dressing. Frequency of dressing changes are up to three times a day. The trial dressing, ALLEVYN Adhesive, was used during the initial treatment period until the wounds were completely debrided or had healed. The dressing was left in place for approximately 3 days, depending on the wound condition. Wound assessment took place every 7 days, using a questionnaire, and at the end of the evaluation. We evaluated the following: handling properties - ease of application - ease of removal, patient comfort, pain upon dressing removal, efficacy, complications.

THE CASES
Case I
A 6-year old boy, was run over by a car on 26/07/96. Due to the accident, he suffered an extensive laceration, fluid loss and progressive necrosis of the entire left leg. The tibia bone was fractured in an uneven manner along the length of the bone and damage to the left tibia at the level of the joint was present. The boy was transferred to our ward on 4/09/96 with large open wounds which appeared infected. Surgical intervention was performed, he received antibiotics and underwent hyperbaric oxygen therapy. On 05/09/96, we started treating him with INTRASITE® Gel and ALLEVYN Adhesive dressings. Initial dressing changes took place every 2 days. On 17/09/96 after the wound was fully debrided skin grafting was performed with a graft taken from the anterior lateral area. The donor site was covered with ALLEVYN Adhesive and healed within 4 days. In addition rehabilitation therapy was started. The patient is currently in an excellent condition and was released from the hospital on 10/10/96.

Case II
An 8-year old boy, was admitted to our hospital with poly-trauma. He was run over by a tractor, had an injury to the left parietal region of the head with complete loss of skin and hair. There was further extensive degrading of the right thigh with total loss of the skin and extensive damage to the knee joint, involving ligaments and the circulation of the knee. On the left-hand side, he had a full thickness wound in the gluteus area with muscular damage and vast amounts of skin loss, affecting all the left gluteus as far as the sacral lumbar area.

Due to the nature of the trauma, an above knee amputation to the right leg was performed. The patient's condition was critical and he was kept in the intensive care unit. On 17/04/97 the patient underwent surgical debridement under total anesthesia. He received Hyperbaric oxygen treatment. The dressing regimen consisted of cleansing with 2% chlorhexadine solution and the application of ALLEVYN Adhesive. Dressing changes took place every two days on average. ALLEVYN Adhesive was effective in controlling the copious amounts of exudate. Most wound healing was promoted to an optimum, allowing for the wound to granulate well. On 22/05/97 skin grafting was performed to achieve closure of the wound.

CONCLUSION
In both cases ALLEVYN Adhesive was reported easy to apply and remove. Patient comfort was high and the dressing did not cause pain upon dressing removal. There was no adherence of the dressings or damage to the wound bed observed. ALLEVYN Adhesive was effective in controlling the copious amounts of exudate. A moist wound healing environment was provided, promoting growth of granulation tissue. ALLEVYN Adhesive was observed to be effective in the treatment of these two pediatric patients with extensive soft tissue trauma.

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