

## INTERNATIONAL ABSTRACTS

### MEASURING FUNCTIONAL OUTCOME IN PAEDIATRIC PATIENTS WITH BURNS: METHODOLOGICAL CONSIDERATIONS

Research in the field of paediatric burns is subjected to wide criticism. Many quasi-experimental research designs have been employed to consider the impact of damage such as scarring and reduced range of motion on subsequent functional performance. These studies have mainly used a narrow definition of functioning (e.g. school attendance) to assess a child's degree of participation in post-burn activities and, until recently, few attempts had been made to develop and/or test a theoretical model of functional outcome in such cases. This review paper from Australia utilizes a conceptual model of functional outcome based on the International Classification of Functioning, Disability, and Health in order to outline the state of the art in research literature. It also presents explanatory case study methodology as an alternative research design in order to advance even further the study of the functional outcome of post-burn injury.

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### TWO CONSECUTIVE OUTBREAKS OF *ACINETOBACTER BAUMANII* 1-A IN A BURN INTENSIVE CARE UNIT FOR ADULTS

Generally speaking, *Acinetobacter baumannii* is a highly antibiotic-resistant micro-organism that can be easily transmitted between in-patients under treatment in intensive care units (ICUs). This paper from Spain describes two consecutive outbreaks of *A. baumannii* in a burn ICU. All patients staying in our ICU longer than two days were subjected to close epidemiological surveillance after admission, with the recording of age, sex, TBSA, etc., as well as follow-up data (antibiotherapy, instrumentation, infections, etc.) We also monitored microbial flora evolution and resistance to antibiotics, using weekly cultures of the pharynx, rectum, skin (healthy and burned), etc. Owing to an "epidemic" micro-organism, infection control procedures were increased. We investigated colonization by other prevalent micro-organisms: multi-resistant *S. aureus* and *Pseudomonas aeruginosa*. Seventy-two burn patients were followed over a one-year period. Only 4.1% of these were infected at some site by *A. baumannii*, but one-third were colonized by this micro-organism, distributed in two outbreaks - one in the first trimester after admission to the Unit in two non-burned and colonized patients (from another ICU), the other some months later, probably owing to transitory colonization of skin or fomites by health personnel working in both ICUs. All the isolates (from both ICUs) of *A. baumannii* were identical by PFGE. Duration of hospital stay was the main risk factor for colonization. *P. aeruginosa* and multi-resistant *S. aureus* showed a tendency to be endemo-epidemic at all times. We conclude that our cross-colonization control measures showed limited efficacy in our burn patients. We must therefore prevent the introduction into burn ICUs of epidemic micro-organisms by colonized patients or health personnel through the restriction of admission of *A. baumannii* colonized patients from other ICUs (if treatment can be administered in this ICU) and by strict disinfection/antiseptic procedures.

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### IMPROVEMENT OF OEDEMA AND HAND FUNCTION IN SUPERFICIAL SECOND-DEGREE HAND BURN USING ELECTRICAL STIMULATION

This paper from Egypt studies the effect of electrical stimulation (ES) on oedema reduction in second-degree hand burns. Thirty patients

(35 hands) were studied in two groups. The age ranged from 20-28 yr and the percentage of total body surface area (TBSA) burned was 20 to 35. The patients were clinically assessed on admission and underwent full surgical treatment. All patients received normal medical and physical therapy, and were randomly assigned to two groups, A and B. Group A received traditional therapy and ES; group B received traditional physical therapy without ES. Physical therapy evaluation was performed 72 h post-burn with the measurement of hand volume, range of motion, and finger function. Serial measurements of these values were performed on day 3, day 7, and day 15. Patients in both groups showed marked improvement of oedema and subsequent hand function during the period of the study. The rate of improvement of hand oedema and function was excellent, particularly between days 7 and 15 post-burn. Improvement was however greater in the electrically stimulated group than in the traditionally treated group.

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Egypt J. Plast. Reconstr. Surg., 28: 141-7, 2004

### EVALUATION OF THE TREATMENT PROTOCOL OF ELECTRICAL INJURIES IN AIN SHAMS UNIVERSITY BURN UNIT

Electrical injuries are not a very common form of burn trauma, accounting for only 1.5% of admissions to our burns unit in Egypt. This paper is a retrospective study of the epidemiology, treatment protocol, and outcome of electrical injuries treated over a 7-yr period (1996-2002). Fifteen patients presented low-voltage injuries and ten high-voltage. It was found that our protocol was satisfactory for resuscitation and the prevention of kidney failure. The low-voltage injuries were not always minor burns. Reconstructive procedures in the form of skin grafts or flaps were required to maintain hand function in 50% of cases with low-voltage injuries. High-voltage injuries were more devastating and frequently led to amputation. Two patients died of associated thermal burns (one with low-voltage burns, the other with high-voltage). The causes of death were inhalation injury and burn wound sepsis.

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### ACCIDENTS D'ÉLECTRISATION: CONDITIONS DU TRAUMATISME ET PHYSIOPATHOLOGIE DES DOMMAGES

With the improvement of precaution, electrical injuries have become less frequent, despite increasing use of electricity. The passage of current through the body can cause serious damage and even death. The assessment of what is effectively caused by electrical injury depends on various points: on the circumstances of the accident (injuries occur when two parts of the body are connected with an electric circuit; the outcome depends on the contact, the path of the current; and physical characteristics determine the physiopathological effects); on the damage caused by the electrical injury (clinical description and exploration); and on special circumstances such as accidents caused by lightning, the medical use of electricity, and electrical torture. Burns caused by an electric flash due to a short circuit, without the passage of current through the body, is outside the scope of this paper. The main circumstances of electrical injuries are the work place in young male adults. The most frequent and severe burns involve high voltage.

Aurengo H., Bargues L., Folliot D.  
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