

10-Fold Expansion of a Burn Unit for Mass Casualties — How To Recruit the Nursing Staff?

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In the management of mass casualties, we usually deal only with the first hours of the incident. For the best treatment, we prefer to transfer patients to other burn units for further treatment. But what if such transfers are not possible? Who will treat them during the next days and weeks and how will they be treated?

A comprehensive plan to cope with such a situation was prepared. The Plastic Surgery Department with 15 beds (including burn patients) has the capability to expand and treat up to 136 burn victims. This set-up requires training of supplementary personnel (surgeons, nurses, supporting staff), a plan for allocation of hospital beds (including intensive care), equipment, etc.

A major issue is the allocation of nursing staff who will be capable to do this duty and cope with the psychological burden associated with treating major burns. Questionnaires were sent to the 900 nurses of our hospital in order to evaluate their attitudes to treating patients with burns in emergency, training, and inclusion within the potential staff of the expanded burn unit. A total of 250 responded: 1/3 refused to join, 1/3 were willing to, and 1/3 had not decided. Interestingly, we have found very positive cooperation from young nurses and those from non-trauma specialties, such as obstetrics.

An emergency force, including 170 nurses from our hospital, and 70 from community medical facilities, was established. With the cooperation of the staff of the burn unit, a multi-disciplinary program was prepared for training of these nurses. A system for urgent recruitment was set-up. Simulations were done to check this plan. It has received excellent feedback and was adopted by other major hospitals, and was supported by the Ministry of Health and army medical forces.

Major disasters do not end within the first hours. A plan for dealing with this situation over longer periods also will be discussed. Wars have taught us that self-reliance is the mainstay of success in emergencies. Outside aid is a blessed deed, but not always available.

Keywords: burns; mass casualty incidents; nurses, training

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Which Kind of Triage Do We Need?

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Introduction: Triage traditionally is used to sort patients who need timely emergency care. A number of triage methods have been applied. Are they useful in the ability to determine the severity of illness or appropriateness of emergency care?

Objectives: To compare the appropriateness of emergency triage between a subjective method and a criteria-based method.

Methods: A two-phase, prospective study was conducted at a tertiary medical center. In Phase 1, a triage nurse rated the severity of illness for every randomly selected patient using a four-tier triage system subjectively. In Phase 2, the same nurses used a criteria-based triage system to rate the severity of illness. These patients were assigned the most appropriate time frame for a physician visit (four choices, from immediate to >30 minutes) after initial evaluation by attending emergency physicians in both phases. Inter-rater agreement and the possibility of hospital admission between two triage systems were measured.

Results: The inter-rater agreement kappa value of triage nurses is 0.53 and 0.8 respectively. For subjective triage method, the agreement rate between nurses and physicians is 75.8%. There were a 14.7% under-triage and 9.5% over-triage rates. For criteria-based triage method, the rate of agreement, under-triage and over-triage is 40.2%, 13.9% and 45.9% respectively. The estimate of the possibility of hospital admission is more sensitive using the criteria-based method than the subjective method (81.0% vs. 38.0%).

Conclusions: The criteria-based triage system had higher inter-rater agreement and sensitivity to estimate the possibility of hospital admission. Continual effort is necessary to reduce the discrepancy with physician's triage.

Keywords: criteria; emergency department; nurses; physicians; severity; triage

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