case, despite the fact that hematomas formed around the spleen in an early period after injury were almost identical in size.

Conclusions: The natural history of injuries to the liver or spleen is defined when healed conservatively.

173
Influence of Emergency Department Visits on the Behaviour of Hypertensive Patients

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Objective: Hypertensive urgencies are a common problem in emergency departments. Causes of hypertensive urgencies are insufficient medication, incorrect ingestion of drugs, and lifestyle. The aim of this study was to evaluate if a stay in an emergency department can change the behavior of hypertensive patients with regard to blood pressure control, medication intake, and lifestyle.

Methods: In a retrospective study, all patients were evaluated who presented with hypertensive urgencies during the last three months. Three months later, each patient received a questionnaire with the following topics: changes in therapy; frequency of blood pressure (BP) control; and behavior.

Results: Seventy-three patients (37 male, 36 female; age 56–13 years) received the questionnaire. Within three weeks, 30 (41%) patients (17 male, 13 female; age 58–15 years) returned completed questionnaires.

	Yes	No
	n (%)	n (%)
Physician visit	28 (93)	2 (0.7)
Therapy changes	27 (90)	1 (1)
Frequency of BP control	17 (57)	13 (43)
Behavior changes (smoking, stress, weight)	20 (66)	11 (34)

Conclusion: The patients returning the questionnaire seemed to be a positive, selected group of patients. Most of them visited a physician after this event and improved their medication intake. Changes in behavior and frequency of blood-pressure control were rare. It is assumed that long-term effects on behavior of hypertensive patients cannot be established. In conclusion, an enforced information about risks and consequences of hypertension seemed to be necessary to achieve long-term effects on behavior of hypertensive patients after a visit in an emergency department.

174
Standing Orders: Does This System Decrease the Prehospital Care Error Rate?

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Objective: The aim of this study was to compare the error rates of physician medical commanders and paramedics before and after implementation of a standing-orders protocol system for patient care by paramedics.

Design: Physician review of prehospital trip sheet conducted prospectively as part of an ongoing quality assurance (QA) program.

Setting: An urban paramedic service in the northeastern United States.

Participants: A total of 2,001 advanced life support (ALS) run reports from the start date 1 April 1991 of the protocol system through 31 January 1992 were reviewed as part of the QA program.

Interventions: Errors in patient care (failure to administer an indicated treatment or medication or performing inappropriate or excessive treatment) by medical-command physicians and by paramedics were recorded. The errors were compared to the medical-command errors determined from a previous study encompassing transports from September 1988 through December 1990, at which time paramedics were required to obtain medical command for most treatments.

Results: Medical command errors decreased from 4.4% to 1.2% of runs after the standing-orders system was adopted. Paramedic error rates remained at <0.5% in both systems. Mean paramedic on-scene time interval decreased by 68 seconds with the standing-orders system.

Conclusions: Use of standing orders to direct initial patient care by paramedics resulted in a significant decrease in the treatment error rate by medical-command physicians, no change in the low paramedic error rate, and slightly decreased on-scene times. Use of standing orders may improve efficiency of prehospital care without compromising quality of patient care.

175
Audit of Referral Practice to Radiological Department from an Emergency Ambulance

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Objective: Until now, the referral practice of an emergency department to the department of radiology had not been evaluated. The aim of this study was to work out the referral practice to the radiological department measured against the percentage of positive or negative radiological results.

Methods: The referral practice of the last six months was investigated with regard to chest x-ray, ultrasonography of abdomen and kidneys, and cranial axial tomography (CT) of the brain in 764 patients.

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Results:

Study Done	N	positive n (%)	negative n (%)
Chest x-ray	488	164 (34)	324 (66)
CT-brain	98	25 (26)	73 (74)
Sonogram-abdomen	108	46 (43)	62 (57)
Sonogram-kidneys	46	22 (48)	24 (52)
Presumptive Diagnosis			
Pneumonia	204	65 (32)	139 (68)
Pulmonary edema	102	49 (48)	53 (52)
Pulmonary embolism	50	6 (12)	44 (88)
Pneumothorax	32	6 (19)	26 (81)
Cerebral ischemia	20	9 (45)	11 (55)
Cerebral bleeding	53	13 (18)	40 (82)
Nephrolithiasis	60	28 (47)	32 (53)
Cholecystolithiasis	35	21 (60)	14 (40)

Discussion: The results of radiological diagnostic procedure have a high priority in the decision-making to the discharge of a patient, especially in diagnostics of outpatients in an emergency department. Furthermore, exact documentation in the clinical record, for forensic reasons, requires the frequent use of radiological examination. Both reasons explain the high percentage of negative results in this study.

178
Organization of the Emergency Department in a Mass-Casualty Event When Little or No Warning is Given: Our Experience

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Tan Tock Seng Hospital is one of the six hospitals in Singapore that may be involved in the event of a mass-casualty (MC) event. The emergency department is the second largest in the country and attends to 320 patients per day. In the event of a mass-casualty event, it continues to attend to its regular load of patients.

In 1992, two fires occurred at a local shipyard. The first was on 12 July. We were activated at 1230 hours and within 15 minutes, at 1245 hours, the first batch of casualties arrived. The second occurred on 27 November. The first casualties arrived at 1517 hours, with no warning. They were brought in by the company's own vehicle.

Valuable lessons were learned from these two events: 1) Duties must be predesignated to effect the mass-casualty plan smoothly. The presence of an effective leader cannot be overemphasized; 2) Non-mass-casualty patients must be attended to in an area separate from mass-casualty victims to minimize confusion. These areas must be predesignated to expedite the above-mentioned; and 3) The recall system has to be practiced often enough to ensure that help is available when needed.

These two events provided us with opportunities to test our response to a mass-casualty event when minimum warning was given.

179
Road Traffic Polytrauma, Medical Management

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The diagnosis and the management of patients with injuries from polymorphic road traffic accidents and with shock present a continuing challenge to emergency medical services systems and to personnel delivering care at the scene.

This 1992 video presents a system for on-scene examination of the site, the vehicles, and the casualties, emphasizing first the need to recognize and provide treatment for the maintenance of vital functions and, second, the techniques of extrication.

The video then describes emergency department triage and care (tracheal intubation, perfusion, Medical Antishock Trousers, crural block), emphasizing the need for a high index of alertness for covert, life-threatening lesions.

The video is targeted to the immediate care first-responders, and is designed as an aid to introductory didactic teaching.

181
Diaspirin Cross-linked Hemoglobin (DCLHb™): Phase I Clinical Safety Assessment in Normal Healthy Volunteers

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Purpose: To determine the critical safety parameters and assess the pharmacologic effects of DCLHb in normal study participants prior to use in patients.
Protocol: A randomized, placebo controlled, double-blind protocol of cross-over design was used to assess the safety and effects of DCLHb infusion. Twenty-four participants received either 25, 50, or 100 mg/kg of the 10 g/dl DCLHb solution or an equal volume of lactated Ringer infused over 30 minutes, followed five days later by infusion of the alternate solution. Organ function and potential toxicity were assessed during the 11 days of resident monitoring. Laser doppler flowmetry, pulse oximetry and clinical manifestations of perfusion were used to assess for evidence of vasoconstriction.
Results: Two participants receiving the lactated Ringer's (control) solution demonstrated cardiac dysrythmias preempting cross-over into their respective DCLHb dose groups. A dose-related increase in mean aterial pressure was observed after DCLHb infusion, with an associated decrease in heart rate. No evidence of vasoconstriction was observed. Two DCLHb recipients had mildly elevated total CK at 24 hours (239 and 413), which returned to normal by 48 hours. The LDH-5 isoenzyme

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