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.

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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.

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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.

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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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fraction was increased in a dose-related manner in the DCLHb recipients, but the total LDH was not elevated. No myalgias, temperature elevations, or associated symptoms were observed.
Conclusions: DCLHb infusion was well-tolerated by all participants. The pressor effect reported in pre-clinical studies was also observed in the normal, healthy participants. These Phase I findings support planned, patient-safety studies involving treatment of hemorrhagic, hypovolemic shock.

CPR

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Early Defibrillation in a Two-Tier Emergency Medical System (EMS) with Physician Staffed Ambulances

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Hypothesis: Early defibrillation by emergency medical technicians-defibrillator (EMT-Ds) improves outcome and long-term survival in a two-tier emergency medical services (EMS) with emergency physician staffed ambulances.
Methods: In a prospective, multi-center study, patients with witnessed out-of-hospital ventricular fibrillation (VF) treated by EMS personnel were assigned randomly in one of two groups. The study group (S) consisted of patients defibrillated by EMT-Ds; a control group (C) comprised patients defibrillated by an emergency physician (physician-staffed ambulance vehicle). Time intervals to key events were determined by means of tape-recording during a required review of CPR.
Results: A total of 121 patients (S:n = 45/ C:n = 76) were included.

Median time intervals (25th to 75th percentile) in minutes: from collapse to:

	Study Group	*Control Group*
Commencement of CPR	7.7 (3.7–11.4)	7.0 (2.5–9.7)
Defibrillation	9.9 (7.1–13.5)**	12.3 (9.5–16.0)
Physician Arrival	13.0 (10.9–17)*	10.4 (7.5–13.6)
ROSC	14.0 (9.1–22.0)*	18.5 (14.1–24.7)

Survival rate (%):

	Study Group	*Control Group*
ROSC	67 (n = 30)	79 (n = 60)
6 Hours	58 (n = 25)	59 (n = 45)
Discharged from Hospital	31 (n = 14)	29 (n = 21)

Amount of epinephrine (epi) until ROSC:

	Study Group	*Control Group*
Total epi until ROSC (mg)	2.2–2.7	6.8–7.2
Patients without epi until ROSC		
Patients	40% (n = 12)	12% (n = 7)

ROSC = return of spontaneous circulation
* $p < 0.05$; ** $p < 0.01$ versus C (Mann-Whitney-U test, Fisher's exact test for frequencies)

No significant differences in the initial survival rate, the number of patients discharged alive, and in the neurological long-term prognosis were recorded.
Conclusion: Because of apparent differences in indirect parameters (time interval to ROSC and the number of patients not requiring epi administration) and because of the reduction of the time interval to the first defibrillatory shock by the EMT-D defibrillation, EMT-Ds may perform prehospital defibrillation,

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