

Detailed forensic research is needed to establish the immediate cause of death. From this, adequate first aid practices can be deduced to ensure efficient and effective bystander first aid immediately after an road traffic crash.

**Keywords:** bystander; first aid; incident management (IM); the Netherlands; road traffic crashes; traffic

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### (55) Rural Emergency Medicine in Nigeria: A Need for Change

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At the turn of the Century, the status of rural emergency medicine in Nigeria virtually was non-existent. This significantly contributed to the high mortality and morbidity rates on Nigerian roads. What existed at best, was a scoop-and-run policy with its own peculiar problems. Within the last decade, the growing need to restructure the organized trauma sector has become more evident. This has led to the establishment of governmental and non-governmental organizations to address these problems.

This paper reviews the status of rural emergency medicine in Nigeria. It highlights some of the problems and peculiarities in this area of trauma care and propose how these problems can be resolved.

**Keywords:** morbidity; mortality; Nigeria; non-governmental organizations; rural emergency medicine

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### (56) Systematic Review of Biphasic Versus Monophasic Waveforms for Transthoracic Defibrillation in Out-of-Hospital Cardiac Arrest

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**Introduction:** Transthoracic defibrillation is a potential life-saving treatment for patients with ventricular fibrillation (VF) and hemodynamically unstable ventricular tachycardia (VT). In recent years, the use of biphasic waveforms for defibrillation has become more common than the use of monophasic waveforms for defibrillation. Biphasic waveforms are characterized by an initial positive current flow followed by a reversal to a negative current flow. Clinical trials of internal defibrillation and transthoracic defibrillation of short-duration arrhythmias have demonstrated the superiority of biphasic waveforms over monophasic. Biphasic waveforms are increasingly being used for transthoracic defibrillation of long-duration, out-of-hospital cardiac arrest.

**Objective:** The objective of this study is to assess the effects of biphasic waveforms compared to monophasic waveforms for defibrillation of patients experiencing out-of-hospital cardiac arrest.

**Methods:** A search of the Cochrane Central Register of Controlled Trials (The Cochrane Library Issue 4, 2006),

MEDLINE (January 1990 to July 2006), and EMBASE (January 1990 to July 2006) will be conducted. Additional papers will be sought through hand-searching of relevant conference proceedings and reference lists of articles. The selection criteria will be based on randomized, controlled trials comparing biphasic and monophasic waveforms in out-of-hospital cardiac arrest. The primary outcome is the return of spontaneous circulation. Secondary outcomes include: (1) first shock efficacy; (2) efficacy of up to three shocks; (3) delivered current; (4) adverse outcomes; and (5) survival to hospital discharge. Two reviewers will independently assess the study quality and abstract data using a standardized data collection form. Disagreement will be resolved by consensus. Data abstraction will include information on adverse outcomes.

**Results:** The work is ongoing and results will be presented at the World Congress on Disaster and Emergency Medicine (WCDEM) 2007.

**Keywords:** biphasic waveforms; cardiac arrest; monophasic waveforms; out-of-hospital; transthoracic defibrillation

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### (57) Carotid-Pulse-Check Performance by Soldiers: Effects of Cardiopulmonary Resuscitation Training and Effects of Physical or Combined Physical/Psychological Stress

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**Background:** Currently, the carotid-pulse-check is restricted by the International Liaison Committee on Resuscitation/ERC Guidelines for health professionals, mainly due to the poor performance by non-health professionals.<sup>1</sup> It remains controversial whether soldiers undergoing cardiopulmonary resuscitation (CPR) training should apply carotid-pulse-check, but this decision may be affected by the trainability and performance of the soldiers. Therefore, the impact of CPR training and stress (physical and psychological) on the carotid-pulse-check performance of soldiers was tested.

**Methods:** Soldiers (n = 86) received standardized, theoretical, CPR instructions, including a demonstration of the carotid-pulse-check technique. Later, the soldiers performed carotid-pulse-check on a supine, normotensive, normofrequent, person under each of five conditions (A-E): Before (A) and after (B) practical ("hands-on") CPR-training; before (C) and after (D) defined physical exercise; and (E) under combined physical/psychological stress. Data are provided as means  $\pm$ em, with significance set at  $p < 0.05$ .

**Results:** The time required for carotid-pulse-check significantly decreased from solely theoretical training (A, 9.7  $\pm$ 1.0 seconds) to practical training (B, 7.7  $\pm$ 0.7 seconds). In contrast, the carotid-pulse-check-time significantly increased from rest-condition (C) to physical exercise condition (D, 9.3  $\pm$ 1.2 seconds). Surprisingly, the shortest time required for carotid-pulse-check was achieved under combined physical/psychological stress (E, 5.0  $\pm$ 0.4 seconds).

**Conclusions:** Standardized resuscitation training significantly improved practical resuscitation skills, (e.g., the carotid-pulse-check to accepted performance levels).<sup>1,2</sup> Although