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Do We Need Doctors to Go Out in Emergencies?

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Some national emergency systems regularly send specially trained doctors (often anesthetists) out of the hospital in emergencies (e.g. Germany and France), while other systems mainly are managed without this option (e.g. the U.S.). If one is in the position to choose which option to adopt, I would argue that there are reasons to carefully consider whether it's a wise decision to use anesthetists in such emergencies.

What is Important in Pre-Hospital Emergencies?

Although the scientific basis for our current prehospital emergency care is relatively scanty, there seems to be agreement on some issues. Rapid response in both trauma and medical emergencies, with short on-scene time, is essential in all emergencies. Only life-saving procedures should be performed (safely) on-scene, and assessment of the patient and situation (situational awareness, including safety) are key factors for success. Airway management must be mastered, but should be as minimally invasive as possible. With respect to Advanced Cardiac Life Support (ACLS), perfect chest compressions, timely defibrillation, 12-lead ECG and medication (including thrombolysis if appropriate) and optimal post-resuscitation care are important. Further, hemorrhage control and volume therapy, if indicated, and the avoidance of hypothermia are critical to pre-hospital emergency care. Last but not least, emergency response personnel must be able to re-assess and evaluate the patient and possess knowledge of other, non-medical resources and skills (e.g. use of radio communication, how to cope with hostile environments, police and rescue personnel and techniques). This requires sound, thorough education and training, but competency in these areas can be achieved by health personnel other than doctors, such as ambulance staff and nurses.

Arguments Against Doctors Going Out in Emergencies

First of all, it must be acknowledged that there are some emergency situations in which the competence of a trained anesthetist is vital for the patient (e.g. the difficult airway). However, the incidence of such cases is fairly low, and there seems to be a general need for anesthetists inside the hospitals in many regions of the world. With respect to airway management, recent findings suggest that endotracheal intubation is often not the best option, because it is difficult, and other, less invasive techniques involving supra-glottic devices have been introduced to minimize risks during intubation.

With that in mind, the most important arguments against sending specialized doctors out in emergencies are: the limited availability of competent physicians, competing in-hospital interests (e.g. medical emergency teams), the higher costs of employing physicians relative to other personnel and the local Emergency Medical Service (EMS) organization at large. It is also important to take a close look at the total pre-hospital chain of survival, emergency setting (urban or rural), strength of physician control and support to the dispatch/ ambulance response system and the degree to which primary care physicians get involved in outof- hospital emergencies. In urban areas, rapid transport of the patient to a nearby hospital, where the resources are far better than those available out in the streets, is often possible.The scoop-andrun philosophy obviously has merit in such settings. Studies have also demonstrated that specialized doctors tend to prolong the on-scene time. In the rural setting, however, the specialist may receive the patient in the hospital too late for effective intervention, if the quality of the pre-hospital services is poor. Therefore, the presence of a trained and interested general practitioner could greatly enhance rural emergency medical services.

It is possible that the specialized doctor's knowledge could benefit more patients (both within and outside the hospital) if he or she were available onlinefor the paramedics. For example, it has been shown that on-line radio support from specialized doctors can be used to help ambulance personnel safely perform pre-hospital thrombolysis. Even without on-line support, workarounds can be developed. For example, venous access can be difficult without a doctor present, but again the intraosseous route can be used by emergency personnel other than doctors, as can external pelvic compression devices in patients with hypovolemia due to suspected pelvic fractures.

Some special emergency services already do not use specialized doctors on-scene, like the emergency service in the Norwegian off-shore

industry. Here, the search-and-rescue (SAR) helicopter service has functioned as a kind of air ambulance for more than 20 years.The medical crewcomposition is one specially trained anesthetic nurse and one paramedic.When necessary, they can contact doctors who are available on-line for diagnostic and decision support at any time 24/365.

Conclusion

Short on-scene time, combined with simple and safely performed life-saving techniques can be mastered by medical staff other than doctors, given proper training and effective organization. Sending specialized doctors out of the hospital, where many patients rely on their care, is a costly way of using physician expertise. Specialized doctors should be utilized for exerting tight on-line command and quality control of the EMS. Primary care physicians, on the other hand, must take part in the assessment of the emergency patient onscene, especially in rural settings. 4

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