

Pre-hospital airway management – time to provide the same standard of care as in the hospital

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PRE-HOSPITAL care has used Utstein guidelines for years to document results in cardiac arrest and trauma care. One of the latest Utstein meetings dealt with the formula of survival (Fig. 1).

If there is good medical science, great educational efficiency, and the local organization implements it all in an effective way, then the formula will be $1 \times 1 \times 1 = 1$. This is rarely true. There can be good medical evidence, but usually we are not able to implement it in our daily practice. The formula in real life could be $0.9 \times 0.2 \times 0.2 = 0.04$. Therefore, it is time to focus on education and the local organization.

There is considerable research about tracheal intubation, also in the pre-hospital setting. We know that insufficient breathing and obstructed airways are bad. We also know that securing the airway by tracheal intubation in that situation is good. However, is it good or bad to intubate in the pre-hospital environment? Tracheal intubation improves survival in major blunt trauma (1), but it does not seem to be better than bag-valve-mask ventilation (2). If you look more closely at these articles, you can see that using proper medication to facilitate intubation performed by highly trained professionals improved survival (1), but survival was not improved when intubation was performed without medication by less trained persons (2). This is usually what the results are about. Not the

tracheal intubation itself, but how it is performed. Besides, when have you last seen an article asking whether tracheal intubation inside a hospital is good or bad?

Pre-hospital tracheal intubation is not an intervention performed daily by every unit in any emergency medical system. Tracheal intubation is used only when it is really needed, and that is fairly seldom. In Finland, in the busiest of systems, the individual paramedic intubates once or twice a year or less. You can hardly think that anyone can maintain skills and competence in tracheal intubation in this way. Some time ago, I read that 60 intubations are needed to reach a good level on the training curve. I am sure it did not mean that those 60 intubations are performed during 30–60 years. Intubating a manikin gives you good practice, but it can never fully mimic the real situations. The pre-hospital environment is very different from the inhospital one. It can be very cold, dark, and wet. The patient can be entrapped and in anything but a supine position. This can be a major challenge even for a very skilled and competent physician working constantly with the airways. Nowadays, anaesthesia does not necessarily comprise general anaesthesia with tracheal intubation. This means that it can be hard to offer the pre-hospital personnel the possibility to train in the operating room. In addition, elective surgical patients in the operating room environment are very different from those in the pre-hospital setting.

We know that an open airway and adequate ventilation is beneficial. The next question should be, which method should we use to give the best possible care? The golden standard is still tracheal intubation, but there are also many supra-glottic devices available. If we believe that tracheal

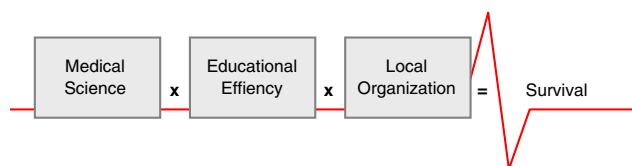


Fig. 1. Formula of Survival.

Editorial

intubation is what we should offer the patients with ventilation problems, then we should see that there is enough competence to carry out that procedure. Not just get the tube in, but do it in a best practice way. Like all emergency intubations inside a hospital, also the pre-hospital intubation should be performed as a rapid sequence induction. Inside a hospital, a physician is always present during that procedure. And why should it be different outside the hospital? Still, in many pre-hospital systems, the people who are allowed to intubate have been trained only in intubating elective ASA I and II patients with a skilled person near by, without even the possibility to train on difficult patients in the emergency room.

Emergency medical systems have to decide on two things. Is tracheal intubation the golden standard the patients need? And if so, does the system follow the new guidelines presented in this issue (3)? The authors constituted the task force from the Scandinavian Society for Anaesthesiology and Intensive Care Medicine. They state that the evidence is level D and the available studies are not randomized or even very huge. The pre-hospital setting is not easy for research. The point is,

though, whether the time has finally come where we give the pre-hospital patients the same level of care as we give the inhospital patients. This is the biggest question.

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