Letters are welcome on any emergency care related topic, but must be kept brief. Letters must be signed, and include the name and address or station of the author, which may be witheld on request. (Pseudonyms may be used for publication purposes.) Contents may be edited.

The Editor, Australasian Journal of Emergency Care

Paramedic Advanced Life Support - Rapid Sequence Intubation

Sir,

With regard to the editorial entitled "Paramedic Advanced Life Support - Rapid Sequence Intubation", in the December 1999 issue of AJEC; some of the statements made in this simply cannot be allowed to go unremarked.

Firstly, in denigrating the fact that decisions about paramedic protocols are made by doctors, the editorial writer overlooks the fact that paramedics in any country only have legal standing to give medications under the authorisation and supervision of a physician. In different systems the supervising physician may be a local emergency physician with direct radio control, or the chief medical officer or medical advisory board of a large ambulance service signing off on a series of protocols. What is common across all systems is that the final responsibility for medications given and procedures performed by paramedics lies with one or more physicians. Consequently it is entirely appropriate, both legally and morally, that physicians opine on and decide upon paramedic protocols.

Secondly, the editorial tone exemplifies the old adage that "the grass is always greener on the other side of the fence". Paramedics, who do not use relaxants are inclined to look at in-hospital airway management and conclude that they should have access to the same drugs. Conversely, physicians who routinely use these drugs are aware that they can create as many problems as they solve; hence their reluctance to support relaxant use in paramedic practice. The safe use of muscle relaxant drugs in hospitals depends on their use only by or under the supervision of senior physicians experienced in anaesthesia; furthermore there is a wide range of equipment and expertise (including surgical) available to manage the failed intubation scenario. These safeguards are just not available in the prehospital setting - hence it is unwise to extrapolate from hospital practice.

To safely and efficaciously introduce RSI use by paramedics would require the following protocol set, with associated equipment:

1. Suxamethonium - indications, dose, contraindications and problems
2. Induction sedative regime for the normo- or hypertensive patient (isolated head injury or cerebral event)
3. Induction sedative regime for the cardiovascularly unstable patient (multitrauma or sepsis)
4. Non depolarising muscle relaxants (NDMR) to maintain paralysis.
5. Maintenance sedative regime, preferably by infusion pump.
6. Intermittent positive pressure ventilation by mechanical ventilator. (IPPV by hand is well recognised as a flawed technique for achieving normocapnia.)
7. Disconnect alarm operation and failure of ventilation drill.
8. Capnography - to confirm intubation, and monitor IPPV & NDMR requirements.
9. Failed intubation drill
10. Supraglottic failed intubation procedure: LMA or Combitube.
11. Subglottic failed intubation procedure: cricothyrotomy.

Other procedures such as prophylactic intercostal catheter insertion should also be considered.

Depending on how many individual drugs or protocols are involved in the sedative regime, this means that some 15 protocols would need to be introduced, and a substantial amount of equipment purchased to bring paramedics up to medical equivalence in airway and related management. The question must then be asked as to whether it is either practical or cost effective to train and equip every paramedic ambulance officer, given that (for example) it has been estimated that each MICA officer in Victoria could expect on average to only employ RSI once a year.[1]

In the typical urban setting, nearly all patients can be transported to hospital rapidly enough that temporising airway measures are sufficient. The conclusion of Sampalis *et al*[2] was that advanced stabilising measures in the urban prehospital setting could not be justified; NOT, as implied in the editorial, that these measures should be performed by paramedics instead of physicians. The authors' discussion in this paper quotes multiple other studies showing that paramedics performing ALS also prolong scene time[3-8] and specifically state that "there is no reason to believe that physicians require more time to perform ALS measures compared with paramedics". It is ironical that the editorial writer quotes this study in an attempt to denigrate the use of physicians, while simultaneously suggesting that paramedics adopt more of a physician-like approach to airway control.

To the Editor,
I agree with your editorial regarding the need for ambulance as a job to stand up and be counted as a profession.

I believe individual officer registration, national tertiary education standards and prehospital research are important components. It is through these processes that professional recognition of paramedics as prehospital specialists will be acknowledged by all other professions and the general population at large. Just look at what this process has achieved for nursing!

The key is that we need to have the self esteem to believe that we as a body of professionals are capable of doing the job better than any other profession.

Best wishes,

Greg Markula
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It is in the rural setting, where prehospital times are inevitably prolonged, that advanced prehospital measures are so frequently required. Paradoxically, of course, rural ambulance services have not in general utilised paramedics, even in the USA, because of the difficulty of maintaining currency even of typical existing protocols, let alone a significantly expanded protocol set. Rather, advanced life support measures have tended to be provided by air medical services. Because these services are centrally located and often hospital based, they have tended to solve the advanced clinical care dilemma by using teams incorporating hospital-based personnel (physicians or nurses).

The paramedic concept evolved because it was obviously impractical to provide physician cover at every ambulance station. However rotor wing capability enables a single team to provide timely backup over a very large area. Such a team can hence practically and economically incorporate physicians or other hospital personnel who are already trained and current in measures that exceed paramedic protocols, such as RSI. It is much easier to keep hospital-based teams current on such measures, as these are frequently and routinely performed in hospitals. In addition, teams familiar with these measures are likely to demonstrate improved judgement in deciding whether and when to implement such measures.

Certainly within the Australasian setting, with a small and sparse population, and a relatively high number of paramedics, there will never be enough of a requirement for advanced measures such as RSI to 'go round' to provide ongoing currency and experience from purely prehospital practice. If paramedics (or a cohort thereof) need to become and remain proficient in the range of measures involved in advanced airway control that include (but as outlined above cannot be limited to just) RSI, then the fundamental nature of their practice will need to change. Such paramedics, like EMS physicians in Europe (and flight physicians in Australia) or flight nurses in the USA, will need to be hospital based and work at least part time in hospital critical care areas where they can maintain the skills required for more advanced management.

Alternatively, in a country where as in Europe, there is no shortage of physicians with the appropriate skills who are willing to provide prehospital support (the Sydney/South Australian/Queensland retrieval team model), it may be still better to devolve the advanced measures outlined above to such teams. While paramedics will continue to be a vital part of prehospital care, their future role in patients requiring a high level of stabilisation should be as part of a multidisciplinary team. Emergency response teams within hospitals (e.g. trauma teams) are inevitably multidisciplinary (nurses, emergency physicians, surgeons, anaesthetists, etc); it is naive at best to presume that a single professional group can provide the same expertise, just because the patient is prehospital. Where the patient cannot be delivered rapidly to hospital, the best alternative still remains to take part of the hospital to the patient.

Yours faithfully,

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