

## Editorial

# A Helicopter Emergency Medical Service for Northern Ireland.

John Purvis, Honorary Editor

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2018 sees the launch of the Northern Ireland Trauma Network. This represents the culmination of intensive work over the last few years by many individuals and organisations. An audit of Trauma care in Northern Ireland published in 2016 (based on data collected in 2014) revealed that the overall mortality from major trauma was about 25%. The commonest cause of major trauma was a road traffic collision (RTC) followed by a fall from a height.<sup>1</sup>

98% of major trauma patients received some level of prehospital emergency care usually from Northern Ireland Ambulance Service (NIAS) paramedics with 11% of patients receiving input from British Association of Immediate Care Schemes (BASICS) doctors.<sup>1</sup>

38% of patients had a low Glasgow Coma Scale (<9) and potentially, may have benefited from an advanced airway prior to arrival in the Emergency Department (ED). The statistic for patients requiring advanced airway management after arrival in ED was essentially the same at 39%!

40% of patients admitted to an ED outside the Belfast Trust then required a secondary transfer to the specialist teams in the Royal Victoria Hospital, Belfast.<sup>1</sup>

One major component of the new network is a helicopter emergency medical service (HEMS). The tragic motorcycling death of popular HEMS campaigner, Dr John Hinds, resulted in increased public and political support for a HEMS service in the province – the HEMS4NI campaign collected over 84,000 signatures and Government agreed to add to start-up funding raised by the Northern Ireland HEMS charity partner - Air Ambulance Northern Ireland.<sup>2</sup>

An operating base has been developed at the Maze Long Kesh complex near Lisburn and a three-year contract signed for supply of helicopter and pilots with a commercial provider, Babcock Mission Critical Services. A reserve craft is hangered at St Angelo airfield near Enniskillen. NIAS supply paramedic staff and medical equipment. Doctors specialising in Anaesthetics, Intensive Care and Emergency Medicine have been seconded from all hospital trusts in the province.<sup>2</sup>

I recently had an opportunity to visit the Maze Long Kesh Base and interview Dr Darren Monaghan, Clinical Lead for NI HEMS.

On entering the base, the first thing one sees is a map of Northern Ireland with isochrons – circles showing the

flying time from the base to any particular location – all of Northern Ireland can be covered in just over 30 minutes. Beside the map, sits an air desk paramedic who listens to NIAS radio traffic and can pre-emptively activate the helicopter if calls such as major RTC, falls from a height or declared major incident are overheard. Otherwise, the team respond to requests from emergency services on the ground. The helicopter operates from approximately 7 AM to 7 PM reflecting variation in daylight hours and difficulty landing a helicopter in unprepared and unlit sites. The pilot requires considerable expertise to choose suitable landing sites as close as possible to the scene (figure 1).

Outside daylight hours, a rapid response vehicle with NIAS code Delta 7 is operated by the doctor/paramedic team.

Altogether, 2 pilots, 6 paramedics and 14 doctors contribute to the rota.

At the moment, patients brought back to Belfast are unloaded at Musgrave Park Hospital and then transferred by ambulance to RVH. This can take up to 25 minutes if Belfast traffic is unfavourable and has to be factored in when determining if a HEMS response is best close to Belfast. It is hoped that the situation will improve significantly whenever the helipad opens on top of the new Critical Care block in RVH in Spring 2018.

The equipment and skills brought by the team to the patient include; sophisticated pain relief, rapid sequence induction anaesthesia and advanced airway techniques (including video laryngoscopy and portable ventilation) which can be particularly important for head injuries, focused ultrasound for identifying chest and abdominal trauma and then the ability to perform on scene interventions based on the results. Tranexamic acid can be used for haemorrhage control.

The latest NICE guidance recommends that RSI and intubation should be performed within 45 minutes of the initial call to the emergency services, preferably on scene, which certainly can be greatly facilitated by a HEMS response.<sup>3</sup>

As well as rapid interventions, it is hoped that the diagnostic skills of the team can choose the appropriate hospital for the patient avoiding time-consuming secondary transfers.

The EC 135 helicopter seats pilot and paramedic upfront and to the rear, the Dr alongside the casualty. The paramedic's

seat however can swivel around to face the patient's head. Interestingly, the pilot requires confirmation of navigation points and flight safety checks so the paramedics have enjoyed learning some aviation skills!

Clinical governance and audit are key features of the service, prehospital anaesthesia in particular, requires close governance. One of the anaesthetic doctors acts as Clinical Lead for this aspect of the service. Results are audited by a Clinical Advisory Group which will form part of the overall Trauma Network. By the date of my visit, the team had been tasked on 150 missions and treated 98 patients with 12 requiring prehospital anaesthesia. The group hopes to publish an audit of its first 100 patients soon. In between missions, there is time for extensive teaching and training and each speciality (pilot/paramedic/medic) has much to learn from the others.

Darren hopes to see the service grow over time and perhaps extend into medical emergencies in remote locations in the province. Response times would also be favourable for some adjacent parts of the Republic of Ireland but there are technical and legal difficulties for doctors working outside their own jurisdiction. There may also be the possibility in the future of St Angelo becoming an active base.

It is just the beginning...



Fig 1. Front gardens adjacent to major roads can make good landing sites.

#### REFERENCES

1. Regulation and Quality Improvement Authority. Northern Ireland Trauma Audit. February 2016. <https://www.rqia.org.uk/RQIA/files/49/494ff427-9511-4311-bcca-db5fe7bc3eca.pdf> Last accessed 3rd December 2017.
2. Air Ambulance Northern Ireland website. <http://www.airambulancenl.org/about/> Last accessed 3rd December 2017.
3. National Institute for Health and Care Excellence website. Nice Guideline [NG 39]. Major trauma: assessment and initial management. <https://www.nice.org.uk/guidance/ng39/chapter/recommendations#airway-management-in-prehospital-and-hospital-settings> Last accessed 3rd December 2017.

### LIST OF REFEREES FOR 2017

We pass on our sincere thanks to all our referees for 2017

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