



HEMS Elective

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FPHC elective

I was extremely fortunate to be selected to join Magpas Air Ambulance for a four week HEMS elective placement in May 2026. It provided an exceptional opportunity to spend the final month of my medical degree immersed in pre-hospital emergency medicine, and the experience has strengthened my interest in pursuing PHEM as a future subspecialty.

The placement gave me an opportunity to experience medicine outside the familiar hospital environment. I was able to observe how clinical decision making, aviation, logistics, communication and multidisciplinary teamwork combine to deliver care before a patient reaches hospital. One of the most valuable aspects of the placement was seeing how these components support one another rather than functioning as separate tasks.



Magpas Air Ambulance

Magpas Air Ambulance cares for a population of over 10 million across Cambridgeshire, Bedfordshire and the wider East of England. Uniquely, the service is dispatched by both the East of England (EEAST) and East Midlands Ambulance Service (EMAS) Trusts.

The service operates a mixed air and road model: an AgustaWestland 109SP provides daytime helicopter cover, while Volvo XC90 rapid response vehicles (RRV) provide both overnight cover and respond to taskings that are unsuitable for flight.

The charity was established in 1971 as the Mid Anglia General Practitioner Accident Service, involving a network of more than 100 general practitioners who could be called to road traffic collisions. Over the following decades, the service developed from using a police helicopter into the doctor and critical care paramedic model used today, hosting the first PHEM trainee doctor in the country in 2014.

The charity receives no direct funding from the Government to provide this service.

Structure

I was fortunate to have a full-time placement rota consisting of thirteen operational shifts across the four-week block. This included eight Helimed 66 day shifts, two Medic 33 night shifts and three shifts on the advanced paramedic practitioner critical care resource, CC02.

The breadth of the rota meant that the placement was not simply an observation of HEMS flying. I experienced both air and road responses, different crew dynamics, and a range of clinical and operational environments. This variety became important when reflecting on the multiple decisions required to deliver the right response to the patient who will benefit the most.



Helimed 66

Daily brief

A typical shift began in the with a cup of tea in hand and a handover from the night team, we would then book on with the critical care desks at both EEAST and EMAS, as a land resource, before carrying out the daily checks of both the RRV and the aircraft.

Once these checks were complete, we joined the pilot and technical crew member (TCM) for the daily aviation briefing, before officially booking on as “ready by air”.

The briefing included key information about the weather conditions as well as any NOTAMS (Notice to Airmen) – alerts about airspace restrictions and serviceability of various landing sites.

The briefing concluded with a clinical case combined with a technical scenario, providing an opportunity for the medical and aviation crews to work through potential situations together – requiring us to not only consider the clinical needs of the patient but also the operational and safety considerations associated with the aircraft.

I found this particularly valuable as it challenged my initial perception that the medical team simply *gets on the helicopter* and focuses solely on the patient. From the outset, it was clear that safe HEMS operations is a team activity, with clinical and aviation decisions constantly overlapping.

Kit checks and preparation

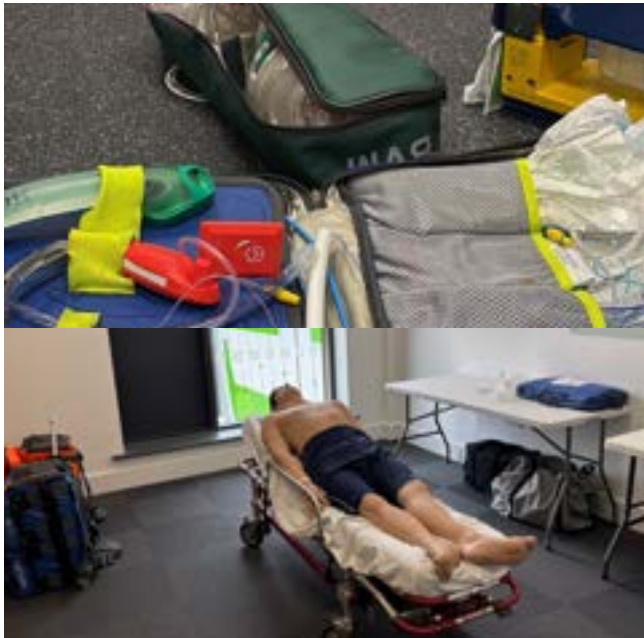
What struck me was how organised the kit checking process was. It was an expectation that quickly became part of my daily routine. Magpas operated a cycling daily check rota meaning that a different bag or set of equipment was itemised and date checked at the beginning of each shift – this means that every item is checked with predictable regularity and issues can be identified early.

The process initially felt repetitive, but its value became increasingly obvious as the placement progressed, because my knowledge of the kit gained during the checks meant that I didn't waste time searching for items.

Throughout the shift, any equipment used was replenished and the bag was retagged, ready for the next tasking, whether by the same crew or a following shift. This demonstrated that trust and accountability extend beyond direct patient care into the logistics that make the care possible.

This showed that strong team dynamics are forged long before being tasked to a job through preparation, standardisation and shared responsibility.





Learning between taskings

During downtime, the medical team often undertook simulation and I was fortunate to help with informal DIMC OSPE revision.

This helped to demonstrate that learning in PHEM is continuous and closely integrated with operational practice. Simulation provided an opportunity to rehearse decision-making, communication and technical skills before they were required in real situations.

With the assistance of Dr Howes, I contributed to a project analysing episodes of post-induction hypertension in patients with a possible traumatic brain injury, as part of a wider review mapping blood pressure targets to patients undergoing sedation.

Aviation

One of the biggest draws of the placement was the aviation component and I was extremely fortunate to have had eight flying shifts with the team.

The pilot and TCM are integral to the operational capability of the service and their role extended beyond navigation and transporting the medical team; they also provided skilled assistance with equipment, blood transfusion and logistical oversight at complex incidents.

I was struck by the demands of flying in uncontrolled airspace, negotiating unsurveyed landing sites and managing communications across multiple radio frequencies, particularly around the busy airspace near London Luton Airport. This drew parallels with medical practice, where clinicians must process a stream of constant information whilst simultaneously balancing competing priorities.

Situational awareness from the air

The overhead view was one of the most distinct learning points of the placement – providing valuable information before patient contact: the geography of the incident, distribution of people and vehicles, access routes and potential hazards. I came to appreciate that the flight itself contributed to situational awareness and preparation and was not merely an opportunity to see the East of England from above.



Shift reflections

Multi-agency firearms incident

During one of my CC02 shifts we were tasked to a firearms incident in a built up area. Although we had been forewarned about the incident by the incident command desk at the beginning of our shift, there was little time for mental preparation because we were less than a minute away when we were tasked.

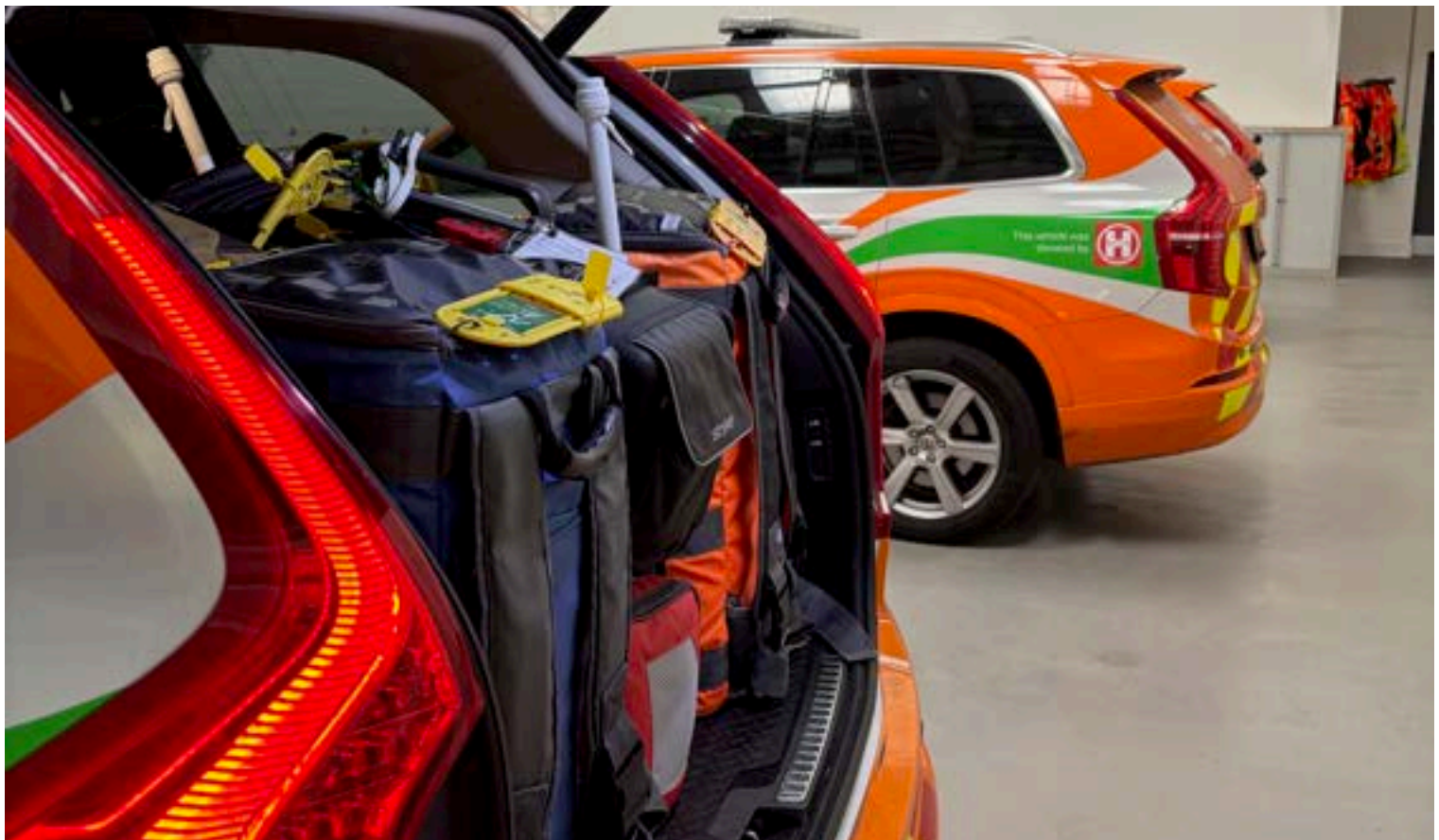
On arrival, it was clear that the scene had become established from a policing perspective, but the medical response was still developing. We arrived alongside the double crewed ambulance who had been standing by at the designated rendezvous point, with HART already inside the property providing initial treatment.

The environment was chaotic, with the fire alarm sounding, smoke in the air and limited lighting. Despite these distractions, the APP-CC provided clear clinical leadership, maintaining focus on the critically ill patient while managing the complexity of the surrounding scene.

What I found striking was the ability to maintain clinical priorities without becoming overwhelmed by the environment. The APP-CC was able to maintain an overview of the incident whilst at times becoming task focussed, yet simultaneously considering what would be needed next. This was a striking practical demonstration of situational awareness with proactive management of the patient and scene rather than simply reacting to the information immediately at hand.

As soon as we had been mobilised the paramedic requested the attendance of the HEMS team, anticipating the likely clinical course of the patient and the potential need for blood and advanced surgical skills.

This neatly demonstrated the importance of thinking several steps ahead. In PHEM, the time required to mobilise additional resources can be clinically significant, so recognising what may be required is part of effective clinical leadership.



Fall from height

We were tasked to a fall from height in the centre of a large town, where the challenges of HEMS aviation were particularly apparent. The highly urbanised environment offered limited safe landing options, meaning that we landed some distance from the incident itself. This required clear communication and coordination between multiple agencies to ensure we could reach the patient as quickly as possible; fortunately, the police were able to assist with transporting us to the scene.

On arrival, we worked alongside colleagues from a local BASICS charity and the ambulance service to deliver sedation and critical haemorrhage control interventions on scene. Following assessment and initial management, the decision was made to convey the patient by road to the major trauma centre (MTC).

I had not previously appreciated the implication of distance and time when considering air operations. It was not simply the time required to fly to the hospital; additional time would be introduced through secondary transfers and loading the patient.

The region's MTC requires an ambulance to meet the aircrew at the helipad and transfer the patient to the ED, something I hadn't appreciated fully, adding both time and disruption.

This made me reconsider my assumption that helicopter transport is automatically the fastest option. The most appropriate mode of transport depends on the patient's entire journey rather than simply the speed of the aircraft. In this case, avoiding unnecessary transfers reduced disruption to the patient whilst allowing the clinical team to continue providing active treatment throughout the journey by road.



Working collaboratively with a different service

We were allocated to a suburban road traffic collision involving a motorcycle and a car, following a request for assistance from Anglia 2, East Anglian Air Ambulance's (EAAA) Cambridge based team.

On arrival, we were informed the motorcycle had both a rider and a pillion passenger and that both were critically unwell. The EAAA team had already split, with the doctor assessing one patient and the critical care paramedic attending the second.

We were directed to the pillion passenger, allowing the EAAA team to regroup and for each patient to have a dedicated clinical team.

Our patient was becoming increasingly combative and had sustained significant abrasions to his arms, with a suspected pelvic fracture and concern for internal haemorrhage. We worked closely with the ambulance service to provide analgesia and to administer blood products.

This case highlighted to me that effective pre-hospital care is fundamentally about working together as a team rather than operating in isolation. The initial decision for the EAAA crew to split was appropriate given the presence of two patients, allowing both to receive timely assessment and treatment. However, our arrival demonstrated the importance of knowing when to regroup and reestablish a shared clinical approach to focus on delivering care to each patient.

For me, the key learning point was that effective teamwork and leadership in PHEM does not necessarily mean everyone always working together. Rather, it requires the flexibility to divide resources when appropriate, recognise when to regroup, and anticipate the need for additional support early.



Final reflection

This elective has been one of the most valuable experiences of my medical degree. I entered the placement with an interest in PHEM but I leave with a much broader understanding of what working in PHEM involves and a set of transferrable skills.

The most important lesson was that PHEM is simply not critical care performed outside the hospital. It is a discipline that combines clinical decision making with aviation safety, logistics, communication, leadership, teamwork and an understanding of the wider system. The clinical encounter is only one part of a much larger process.

I was particularly struck by the importance of preparation and anticipation. Daily equipment checks, simulation, briefing and planning may appear routine, but they create conditions in which good clinical decisions can be made under pressure.

I learned that good leadership is not necessarily loud or dramatic; it can be seen in the maintenance of composure and situational awareness, anticipating resources and clear communication.

The placement also challenged some of my assumptions about HEMS and instead I repeatedly saw that the aircraft is a component of a broader clinical and operational system. Sometimes the most appropriate decision is to travel by road, while the value of the HEMS team lies in the experience, equipment and decision making they bring to the patient and not necessarily always in the deployment of high level practical interventions.

This experience has encouraged me to continue exploring careers in PHEM, and to carry the lessons of preparation, communication, situational awareness and reflective practice forward into my career as a doctor.

A huge thanks goes to everyone at Magpas Air Ambulance – the doctors and paramedics, the pilots and TCMs and also the charity staff who all welcomed me into their team and made the four weeks such a memorable and rewarding experience.

I also thank the Faculty of Pre Hospital Care for selecting me for this amazing opportunity.

