

Pick up on one theme/thread/aspect of prehospital care medicine which has made you think/changed your perspective/made you a better medical student

I thoroughly enjoyed my six ambulance shifts as part of this pre-hospital care module, throughout the shifts I attended 42 calls with my crew in total. I learned something different from every patient I saw, every observation I took, every nurse we handed over to and every family member I spoke to. We went to seven patients who needed an ambulance because they had drunk too much alcohol, six purely psychiatric patients and we went to two calls which resulted in the patient being taken straight to resus. using the blue lights and sirens of the ambulance. We took patients to Chelsea & Westminster, St Thomas', King's, University College, The Whittington, The Royal Free, St Mary's, Charing Cross and St George's Hospitals many of which I had never been to before so it was interesting to compare the different sizes of A&E departments. However, the call I went to which led me to do the most reading afterwards, and which helped me to grow the most as a medical student was a cardiac arrest resulting in death. In this reflective piece I would like to look into the background of the patient, information surrounding the medical condition and the response of the London Ambulance Service (LAS) to help me decide whether the outcome could have been different and to discuss how this case taught me to be a better medical student.

The call came up on the screen of the ambulance as a 55 year old man who had suffered from a cardiac arrest, we responded saying we were on our way and then we were at the patient's house within five minutes. I could feel my heart rate increasing and as the paramedics started to explain what would happen when we got there I felt very nervous, but I was ready to help as much as I could. When we got to the scene two paramedics who work in fast-response cars were already starting CPR on the patient so we quickly learned his history from his wife. The patient had woken up around midnight with left-sided neck and jaw pain, decided it was probably toothache, taken two ibuprofen and gone back to sleep. Two hours later his wife was woken up by him making a "funny noise", she immediately discovered he had stopped breathing and she phoned an ambulance. When the first paramedics got to the scene the patient's wife was still on the phone to the ambulance control centre while carrying out, unfortunately probably ineffective, chest compressions. Considering pre-disposing factors (Willacy 2012a), the patient did not have any other medical conditions, including high blood pressure or cholesterol, was otherwise well and was not currently taking any medication. The patient was not a smoker and he had previously led a relatively healthy and active lifestyle. When asking about family history of any medical conditions we learned from the patient's wife that his father had died of a heart attack aged 56 so she was, understandably, very worried. Witnessing the paramedics asking these questions and listening to the response of the wife I think helped me to develop as a medical student because it showed me the importance of taking a full history. While it seemed there were no pre-disposing factors for a cardiac arrest at the start, the paramedics were now almost certain why the event happened. They believed it was caused by a myocardial infarction due to the jaw pain and the family history of sudden, early heart attack death.

Once we learned that the patient's father had died because of a cardiac arrest in his fifties I was very interested to learn about the importance of genetics as a cause of a heart attack. After very little research I soon saw online that the NHS website states that you are twice as likely to develop heart problems if a first degree-relative has the same history (NHS 2013). I didn't realise that genetics have such a large role in pre-disposing factors however US research suggests that people with just one specific gene change are 38% more likely to suffer from a heart attack (Briggs 2013). Professor Hugh Watkins from the

Wellcome Trust Centre for Human Genetics suggests that thousands of genes are involved in causing heart attacks (Watkins 2013). I think often the public only consider general wellbeing as a cause for heart attacks because that is something we can easily change, and science is a scary, uncontrollable factor. Genetics are obviously a factor that the paramedics cannot do anything about so this doesn't change the outcome in any way, however it definitely changed my opinion of the situation. It must be incredibly scary for relatives of people who have suffered from sudden heart attacks, as it was for this family and the two teenage daughters of the patient. I would like to think that when I am a doctor I will fully explain the genetic risks and re-assure patient's families that careful monitoring, having a healthy lifestyle and genetic screening (which is becoming more and more easy to do) can make a large difference.

As we do not have a lot of patient contact or clinical teaching in first year I previously was not aware of what drugs are given following a cardiac arrest. During the 45 minutes in which the paramedics carried out chest compressions they also administered adrenaline ten times and amiodarone once as well. These drugs were given on timings that are the same as those given by the Resuscitation Council UK (Resus 2010) and it was my role throughout the time spent with the patient to inform the paramedics when it was time to give the next adrenaline or time to next shock the patient. This taught me not only about the relevant protocol but also that when everybody has a specific role in a stressful situation it is easier to remain calm.

When considering whether the outcome could have been different, the main aspect to think about is the LAS response. London has the best cardiac arrest survival rate in the country (BBC 2012) and I think this can be reflected in the response seen to this call. For example, there were two fast-response cars and an ambulance (four paramedics in total) on scene within ten minutes of the call being made, which the family were clearly very surprised about but they were also appreciative of the speedy response. The LAS are also very well equipped so the paramedics had three sets of the appropriate equipment and drugs. For example, we used equipment to shock the patient, monitor his heart activity, ventilate his lungs, carry out a needle thoracostomy (Trauma 2004), and fit a cannula to administer drugs and fluids. The ambulance service see more cardiac arrests than hospital teams, in America 88% of cardiac arrests happen at home (Heart 2014), therefore this means they are very well qualified to respond to them however there are also benefits of a hospital the paramedics did not have. If the cause of the cardiac arrest was Tamponade (ACLS Algorithms 2014), usually a result of trauma, then the paramedics would convey to hospital as it generally cannot be treated without HEMS. The only other condition in which the help of hospital equipment could have changed the outcome would be if the cause was hyperkalaemia. Although, in this case we wouldn't have picked up on this cause anyway as there is no time for a 12 lead ECG and also the LAS crews do not carry potassium for IV infusion anyway. Carrying out CPR is hard work and I wondered whether the paramedics being tired may have affected the outcome of the call. After considering this however, I decided it was unlikely as there were four paramedics on scene so, although they carried out CPR for 45 minutes, only ten minutes each is reasonable. During further research I learned that the UK Resuscitation Council are currently in the process of carrying out randomised clinical trials (Resus 2013) to assess the effectiveness of mechanical CPR devices. These are machines which carry out constant CPR at the correct rate and depth, which would prevent the problem of human response varying depending on the strength and tiredness of the paramedics. This excellent LAS response helped to teach me about how invaluable the ambulance service is, and the amount of work they do even on patients that never reach hospital doctors. It also helped me learn how to cope in a very stressful situation, I kept calm and carried out my job effectively.

One thing I found incredibly difficult was learning that the patient had woken up two hours prior to the cardiac arrest with left-sided jaw / neck pain. As soon as the paramedics and I heard this, combined with the family history, we were almost certain this patient had suffered from a myocardial infarction (MI). If only the family knew that left-sided pain was a classic sign of an MI (Willacy 2012b) then the patient could have been taken to hospital and there may have been an opportunity to save his life. After my shift I researched this online to discover how patients could be educated and there are many examples of websites detailing signs of a heart attack, one example asks questions to assess whether you are having a heart attack and also offers courses to learn about early heart attack care (Deputy Heart Attack 2013). Although websites are available I have not had any teaching before medical school about signs of heart attacks. This case showed me the importance of medical education in the community and led me to think about where this education could happen, for example through schools so that it is learnt at an early age. Unfortunately, when considering the entirety of this case, I think this is the main area in which the death of this patient could have been prevented.

Another reason this case was difficult for me was seeing the effect of the death on the family of the patient. The patient had two teenage daughters whom I could very easily relate to so it made me consider how their lives would change. This encouraged me to look into papers relating to the impact of parental death on children later in life and I read a study suggesting children are more likely to suffer many negative outcomes e.g. an increased likelihood of substance abuse, greater vulnerability to depression, higher risk of criminal behaviour, school underachievement and lower employment rates (Ellis et al. 2013). Through considering how the family must be feeling, I was shown the importance of communication, but I was considering it in a different light to how it is normally taught. At medical school we are often shown the importance of good communication with patients, however in this example the communication with the family of the patient was vital. Firstly, in a stressful situation the history of the patient and past medical conditions need established therefore communication with the family is important. However, communication was also important after the patient had died when we needed to explain to the family there was nothing more the paramedics could do, and they also started to explain the procedure that would follow - starting with the police arriving about ten minutes later. I spoke to the family, and helped make cups of tea for them, this may seem trivial but I learnt that in situations like this the family were very appreciative of small comforts.

To conclude, I learned so much from every patient I visited throughout this module however this call specifically led me to do lots of extra research, made me think carefully about the importance of the LAS and I think it changed how I consider my future role as a doctor. I do not think the LAS could have done anything differently, all four paramedics acted admirably however I think the outcome could have been different if public education about heart attacks was better. I really enjoyed this module, I am so glad I did it as I learned lots and I would recommend it to anyone who gets the chance.

References

- ACLS Algorithms. (2014). *H's and T's of ACLS*. Last accessed 16th Mar 2014.
<http://acls-algorithms.com/hsandts>.
- BBC. (2012). *London top as cardiac arrest survival rates compared*. Last accessed 16th Mar 2014.
<http://www.bbc.co.uk/news/uk-england-london-19340915>.
- Briggs, H. (2013). *Stress gene linked to heart attacks*. Last accessed 16th Mar 2014.
<http://www.bbc.co.uk/news/health-25432205>.
- Deputy Heart Attack. (2013). *Early Heart Attack Care*. Last accessed 16th Mar 2014.
<http://www.deputyheartattack.org>.
- Heart. (2014). *CPR Statistics*. Last accessed 16th Mar 2014.
http://www.heart.org/HEARTORG/CPRECC/WhatIsCPR/CPRFactsandStats/CPR-Statistics_UCM_307542_Article.jsp.
- Illis, J., Dowrick, D. and Lloyd-Williams, M. (2013). The long-term impact of early parental death: lessons from a narrative study. *Journal of the Royal Society of Medicine*, 106(2), 57-67.
- NHS. (2013). *Heart attack - Causes*. Last accessed 16th Mar 2014.
<http://www.nhs.uk/Conditions/Heart-attack/Pages/Causes.aspx>.
- Resus. (2010). *Adult Advanced Life Support*. Last accessed 16th Mar 2014.
<https://www.resus.org.uk/pages/als.pdf>.
- Resus. (2013). *Statement on mechanical CPR devices*. Last accessed 16th Mar 2014.
<http://www.resus.org.uk/pages/mchCPRdv.htm>.
- Watkins, H. (2013). *Sudden Heart Death*. Last accessed 16th Mar 2014.
<http://www.thenakedscientists.com/HTML/content/interviews/interview/1000443/>.
- Willacy, H. (2012a). *Myocardial Infarction*. Last accessed 16th Mar 2014.
<http://www.patient.co.uk/health/myocardial-infarction-heart-attack>.
- Willacy, H. (2012b). *Acute Myocardial Infarction*. Last accessed 16th Mar 2014.
<http://www.patient.co.uk/doctor/acute-myocardial-infarction>.
- Trauma. (2004). *Chest Trauma Pneumothorax - Tension*. Last accessed 16th Mar 2014.
<http://www.trauma.org/archive/thoracic/CHESTtension.html>.

MY FIRST SHIFT WITH THE LAS

13/11/2013
18:45-06:45

I have just finished my first ambulance shift and it was absolutely amazing. I can't believe I am still awake (I didn't sleep at all yesterday afternoon), night shifts are very intense but I enjoyed myself so much, it was all fascinating.

I was so worried about being late that I arrived about half an hour early, however this was really good because one of the paramedics talked me through the different vehicles and showed me the kit they carried. When we set off I was full of apprehension, I didn't want to seem foolish, get everything wrong or just be in the way for the whole night.

Our first call took us to the address of a 7 year old boy and his family, the ambulance screen implied he was going to have cut off his whole finger and couldn't breathe due to a panic attack as a result. Luckily this wasn't the case at all. He did have a nasty cut to his middle finger however he seemed calm on examination and we did not feel it was necessary to do any observations. We advised his mother just to take him to hospital when his father got home and then left him in her care. The crew said that the first call was as good a time as any to learn that many people have slightly different views of what an emergency is - ie. when it is necessary to call an ambulance. I think sometimes the job of the ambulance service must be very frustrating as they often attend pointless calls. Nevertheless I enjoyed this call as I could talk to the little boy, it wasn't an emotionally challenging call and I found the experience of meeting a patient in their own home very interesting. It was interesting because the patient seemed much more comfortable knowing where they were, how things worked and they had their family around them. Conversely, children in hospital often seem much more nervous as everything is new.

On this shift I learnt how to measure blood pressure using the upper arm cuff in the ambulance & the wrist cuff in the bag, heart rate, temperature with a thermometer in the ear, respiratory rate, O2 saturation and I learnt how to assess a patient's GCS score.

We visited many patients during the night with various problems and my observational skills definitely improved, however one call I found extremely interesting was a call to a psychiatric patient. We went to the call of a homeless man, released from prison just yesterday who claimed to be having suicidal thoughts. Obviously there was no medical treatment we could give him so all we could do was take him to St Thomas' Hospital for a psychiatric review. The paramedics and I felt that this patient was very, very unlikely to kill himself however they have a duty of care to take him to hospital and he got what he wanted which was a bed for the night.

Driving around London on the ambulance is fascinating, there is so much going on even in the very early hours of the morning. I found it quite scary but enjoyed the adrenaline rush when we sped through red lights or swerved round traffic onto the wrong side of the road.

One other call last night was to a severely intoxicated male who had been sick then collapsed in the back of a taxi, so the taxi driver had taken him to Charing Cross Police Station. This 22 year old was so drunk he could not stand up and had to be carried around after we cut all of his clothes off him because they were covered in sick. Although the paramedics see this type of call all the time it was thought-provoking for me because it highlighted how much time and how many resources drunk students can waste.

I thoroughly enjoyed my first shift. The paramedics were so kind, explaining everything I didn't understand. I cannot wait for next Wednesday when I will do another shift.

MY SECOND SHIFT WITH THE LAS

20/11/2013
19:00-07:00

I had spent the week looking forward to my next shift so I was very pleased when it was finally Wednesday and it was time to go out again on the ambulance. I even managed to get a sleep in the afternoon so I was feeling less tired and I was excited about being able to do all the observations by myself this week.

The first call we went to on my second shift was a patient known to the paramedics as they had visited her apartment many times before and so had the police, who joined us on the call. The patient was holding a knife to her throat threatening to commit suicide and so the police had to be present ensuring that the paramedics were not in danger. The crew have been continuously visiting this patient at least every 6 months for a number of years so for me it highlights someone for whom the system is failing. She was clearly very intelligent and very talented so she really needed long-term psychiatric care. Unfortunately when we got to hospital she ran away again, but after going to find her (as I had her coat and keys) I managed to persuade her to come back into hospital so I felt like I had made a real difference. She told me I was a "very decent human being", and considering she clearly wasn't listening to the police or paramedics I had clearly had a large impact on her.

I found out on this shift that one of the paramedics I am working with does private work at the weekends in the area where I am from. It was interesting talking to him about the differences between the two areas, one difference is which drugs are carried by the crew which had an impact on one of the other calls of the night.

This call was to a patient who was having severe difficulty in breathing. He was a 62 year old male with a history of diabetes, high blood pressure, heart surgery, etc and as soon as we got to him it was obvious he would go into cardiac arrest if we did not get him to hospital as quickly as possible. We put him straight onto oxygen and took him into the ambulance, we didn't even have time to do all of the observations, then we were at the Whittington Hospital in under five minutes. On the ambulance we checked some observations and his heart rate was 136, his BP 196/138 mmHg and his O2 saturations only 80% which shows how ill he was. Once we got to the hospital they gave him furosemide and within half an hour he was much better, able to breathe almost normally and his oxygen saturation etc were all okay. This drug used to be carried by the LAS and is still carried by some ambulance services (eg. South Central) however was cut due to lack of funding. In this instance if the paramedics had the drug it would have saved lots of stress and discomfort for the patient and his wife. Another complication with this case was that the patient's wife did not speak English so this made the whole call very challenging as we had to use the patient's daughter as a translator which did not help calm the situation down and made the job for the paramedics harder although they said this is very common.

Our last call of the night was to the BBC studios as one of the presenters was reported to have had a suspected heart attack. Fortunately by the time we arrived the patient only felt slightly nauseous, and so didn't want to go to hospital which meant after our observations we let him go back into the studio. However, we wanted to do a brief check on him before he drove home so we had a tour of the studios and saw all the Doctor Who memorabilia. This showed me how much respect so many people have for the LAS that they were happy to make hot drinks and give us a tour while we waited.

It was another great shift, there are many challenges seen by paramedics (repeat callers, runaway patients, patients who can't speak English) but the job is varied and they are making a real difference.

MY THIRD SHIFT WITH THE LAS

04/12/2013
19:00-07:00

Last night I had my third ambulance shift with Alan and Paul. Needless to say I really enjoyed myself again and I feel I have learnt lots about how the LAS works. For example I now understand the use of the 111 vs. the 999 service, I know roughly what we will do when we get to the patient and I am starting to understand the triaging process.

After finding an ambulance with heating in the back, a working radio and obviously all the equipment necessary we were ready to go. There is always lots of anticipation at this point as the calls received can vary greatly.

The first call was to the Queens Chapel of the Savoy Hotel which was lovely and warm, smelt strongly of mulled wine and they offered us mince pies. I have learnt that many of the general public have high respect for the ambulance crews and are very grateful of the service they provide. This patient had collapsed so after the other observations being normal we wanted an ECG of the patient to rule out any potential heart problems. I got the chance to learn where all the stickers go and I had a look at the printout which was good experience although at the moment I would not feel comfortable identifying any abnormalities. Luckily the patient was fine, appeared to have just fainted and did not want to go to hospital with us, so we transported him, his wife and their friends to Waterloo station to catch a train home. After the paramedics quickly got some food to re-fuel we were ready for our next patient.

The next call was the one with the most blood and visible injury I have seen so far during my shifts. We attended an RTA collision of 2 bikes near Hyde Park Corner. I think it was good for me to attend this call as I was glad I wasn't at all squeamish when I saw the cut on one of the patients hands which was deep enough to see all the tendons leading to his fingers. The only frustrating thing about this call was that we took the patients to St Mary's because it is a specialist trauma centre only to be told the specialist in hand plastics is at Chelsea & Westminster so the patient would have to make his own way there.

We saw many other patients during the night, I have definitely learnt across my shifts that the LAS do not have a quiet shift, there are always patients that want the paramedics to see them even if we disagree about whether the call is an emergency and whether the patient actually needs an ambulance.

The last patient I will mention from last night is a 25 year old female who presented with very bad back pain which had been on/off since a bowling accident mid-August when she was diagnosed with 3 slipped discs with the aid of an MRI scan, and she had a two week stay in hospital. Her pain was extremely bad last night but as she was very overweight the crew could not lift her so she had to slowly make her way down the flights of stairs with the help of Entonox. This call showed me just one of the problems the LAS faces with overweight patients. We transported her to Kings A&E where due to her current treatment and polypharmacy there was probably very little they could do but she was another satisfied patient.

We finished our shift at 6.30am as we had not had a scheduled meal break (this was not surprising as the crew do not remember the last time they were given an allocated meal break). I was absolutely exhausted but I had really enjoyed myself, interacted with many patients and learned lots. The crew say that the lack of trauma on my shifts is the "curse of the observer" but I have been really enjoying it. Can't wait for next Wednesday already.

MY FOURTH SHIFT WITH THE LAS

11/12/2013
18:45-06:45

This was my last shift before Christmas and again I thoroughly enjoyed the shift. I was less tired this time so I must be getting used to just having 6 nights sleep a week.

The first call we went to on this shift was to a lawyer who had tripped and fallen outside the crown court. When we got there he was lying on the ground under the coats of various passers by but he was clearly very cold and in a lot of pain. We immediately gave him some Entonox as we suspected he had dislocated his knee, and we were planning on giving him some morphine in the ambulance. With the aid of a scoop stretcher we managed to lift him off the ground without moving his knee and onto the ambulance bed. I spoke to his wife on the phone, explained the situation and arranged that his brother would meet him at St Thomas' A&E. We transported him to A&E, giving him enough morphine to control his pain on the way. When he got to A&E he was told he had actually broken his knee cap. This call showed me the fantastically quick effect of morphine as, although the patient had already been calm, he was clearly much more comfortable after we administered the pain relief.

The fourth call on this shift was only the second I have been to for which the patient needed urgent medical care and we had to take them into hospital with sirens and blue lights. In this case we warned the hospital about our arrival in advance and the patient went straight into 'resus'. She was a 26 year old female who had overdosed on Tramadol and Oxycontin in an attempt to kill herself because her mother disapproved of her boyfriend. She had collapsed and had a very low respiratory rate (of only ten) and a GCS of nine. On the way to hospital we started to administer Naloxone, which is used to counter the effects of an opiate overdose, and this started to raise the patient's consciousness levels however the course would be continued when she got to hospital. When we got to hospital a team of doctors and nurses were waiting to help her and the whole handover was extremely efficient to speed up care.

Sometimes the paramedics do not carry out all the observations for various reasons. For the call I just explained we did not measure her temperature as we were focussed on taking observations that really mattered while trying to get to Chelsea & Westminster Hospital as quickly as possible. Another example of not taking all observations on this shift was a four year old female whom we went to because her parents called after she has been vomiting and presenting with a high temperature for a few days. We did not measure this patient's blood sugar level as she seemed upset already and we did not want to scare her with poking a needle into her finger when she didn't really need it.

One other call we went to on this shift was a 33 year old male who was complaining of chest pain, however we are almost certain he was not experiencing any chest pain. He was in a cell at Charing Cross police station where he was being held ready for deportation in the next day or so. He had travelled here, from Afghanistan, on the back of a lorry eight years ago yet he still did not speak any English so communicating with him was very difficult. We carried out all observations, everything was completely normal, and the police admitted that their prisoners often do similar things to this as they think it may prevent them being deported. We had to take him to hospital accompanied by two police officers, so he was wasting the time of the NHS and the police service.

I may seem to talk about patients wasting time for the paramedics a lot but I do enjoy talking to them, learning more about the reality of the health service and I understand that the LAS does save a large number of lives as well as dealing with patients who don't really need an ambulance.

MY FIFTH SHIFT WITH THE LAS

07/01/2014
18:45-06:45

I came back to university after Christmas to do my fifth shift as doing a shift on a Tuesday enabled me to experience a shift where the two paramedics swapped their roles of driving or doing all the paperwork. Although they both carried out the same job it felt very different seeing the other paramedic ask all the questions and highlighted to me how much the personality of a clinician affects the experience for the patient. Obviously both paramedics are very good at their job so they were both polite, calm, and found out all the necessary information, however they did seem to be quite different.

This shift started with a three hour training session for the paramedics. They hadn't realised this until I got there, and probably wouldn't have recommended that shift as a good one if they knew, but I really enjoyed sitting in on the training and I feel like I learnt a lot. We learnt about how to give patients a PHEW (Pre-Hospital Early Warning) score to write on their forms as this is a new initiative being brought in by management, and we went through the trauma and medical Pathfinders to look at when patients should be taken to an Urgent Care Centre rather than an A&E department. We then looked at a few case studies and I managed to make the recommended decision for each patient by myself.

Because we had spend three hours in the training session, and we then had to go and pick up an ambulance from another station because there were none left at Waterloo, we only managed to see five patients on this shift however they were all interesting as usual.

Our second call of the night was to a 29 year old female who was just outside London Bridge station. She was intoxicated and had tripped on the pavement, causing her to have cuts on her upper lip, nose and beneath her left eye. When we got there she was with a group of men so the paramedics quickly got her onto the ambulance and made sure she had all of her belongings as she seemed very vulnerable. We wiped her face and got all the blood off her hands then took her to St Thomas' Hospital as although her injuries were very superficial, and would not require any further treatment, she was not capable to make sensible decisions due to the alcohol and the paramedics were worried about leaving her by herself in London in the early hours of the morning.

Although many of the calls the paramedics attend are not to patients who require urgent medical treatment, and this can be very frustrating, that last call was an example to me of someone who may have got into a potentially harmful situation had the paramedics not been able to help her.

Two of the patients on this shift refused to go to hospital despite the paramedics trying to explain that it was definitely in their best interest as they needed psychiatric attention. One of these was a 63 year old female whose step-daughter called 999 as the carer for the flat had found her undressed and lying on the floor. She clearly needed a psychiatric review (she often does unexplainable things and has a very clear alcohol problem) however she refused to come to hospital and the paramedics decided she was competent enough to make that decision. After this call though we went back to Waterloo ambulance station and the paramedics filled out a 'Vulnerable Adult Form' as they agreed with the woman's stepdaughter that she did need help.

This was another shift I really enjoyed, I definitely feel like my understanding of the service the London Ambulance Service offers has improved and my confidence with talking to the patients and the staff during the handover in the hospital has developed dramatically.

MY SIXTH SHIFT WITH THE LAS

26/02/2014
18:00-07:00

It's the end of my last compulsory shift with the London Ambulance Service however I will definitely be doing more shifts with the crew as I feel not only have I learnt lots through my shifts, they have helped me to develop as a medical student and I have thoroughly enjoyed them. This shift was definitely the hardest one for me, for reasons I will explain later, but all of these experiences add to me becoming a better doctor.

Our second call of the evening was to a 21 year old student who had collapsed on a shop floor. The male had been feeling well all day but following dinner with his family became dizzy and collapsed with facial spasms and his eyes rolling. When we reached the patient he had come round and was able to walk to the ambulance with us. His observations did show slight abnormalities with a raised heart rate and a decreased blood sugar level despite just having dinner. For some reasons this was a very standard case, we transported the patient to hospital and that was the end of our role. However, the patient admitted this had happened once previously, about a month ago. The patient was an international student, had not yet registered with a GP and therefore had not sought out any sort of medical help. This led me to think that maybe international students at university in England should have more help to understand the healthcare system here. In this case a visit to a doctor may have resulted in tests which could have treated the underlying problem, and therefore this collapse (which is worrying for the patient and his family) could have been prevented.

The third call this evening was a complete waste of time for the paramedics. We drove for ten minutes to a hostel in response to a call for which the presenting complaint was a head injury. When we arrived at the hostel, we located the patient and the paramedics assessed the cut on the forehead of the man who had fallen over. Although this was only a small wound it had bled quite a lot and would have looked neater once cleaned up so we encouraged the man to come outside to the ambulance with us. He started walking and then decided actually he wanted to refuse all treatment because it wasn't worth the walk to the ambulance (which was located less than 100m from him). Despite the paramedics best efforts the patient refused all treatment and we left him at the hostel under the care of the night staff there. This highlighted to me a perfect example of paramedics' time being wasted, they have to put up with people being rude or noncompliant and there were probably patients who would have benefitted more from us going to help them.

The penultimate call of this shift was to be the hardest case I would witness throughout the whole of my six shifts with the LAS. I will explain the case details in my extended reflective piece but unfortunately this patient died and I found that quite tough. It was a 55 year old man with a young family so I found it very easy to relate to his daughters. However, despite this, the paramedics said I was very helpful throughout the care given and I do feel we did all we could for the patient. I was in charge of alerting the paramedics it was time to shock the patient (every two minutes) and then another warning (every four minutes) when it was time for the patient to have some more IV adrenaline. It definitely improved my skills of coping in a high pressure situation, I understand better the medicine related to a myocardial infarction - as the paramedics believed this to be the cause - and I felt the paramedics did the LAS proud with the effort they put into helping the patient.

I can't wait to get out on the ambulance again soon although I don't think I will be doing any 12 hour night shifts coming up to exams. It was a life-changing experience and I would recommend it to anyone who gets the chance.