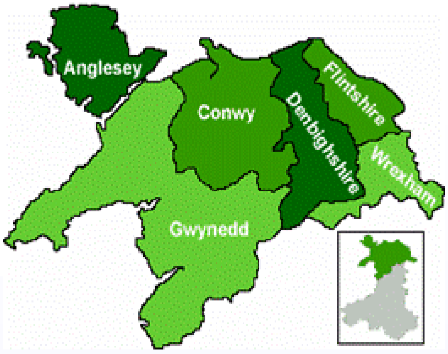
GIG CYMRU NHS WALES
Bwrdd Iechyd Prifysgol
Betsi Cadwaladr
University Health Board



North Wales
Critical Care Network

Winter 2014
Issue 11

MAJOR TRAUMA

Christmas Special

Welcome…..
Welcome to this **Christmas Special** edition of the Major Trauma Update.

On 1st October 2012 BCUHB changed providers for Major Trauma. On the 2nd October 2012 there was a serious road traffic accident near Dolgellau . The 17 year old occupant of the car was seriously injured—she was taken by RAF SeaKing to Ysbyty Gwynedd and then transferred to the Major Trauma Centre, now known as the Royal Stoke University Hospital. Megan spent 44 days in ICU and over 8 months in hospital………..this is Megan's Story

Injury to Interview—Megan's Story

Hello, my name is Megan Jones. I was born a week before Christmas in 1994 and grew up in a loving Christian family in the mountains of North Wales. Being the third of four girls, Mum always said that being born was the easiest thing I did - everything else was hard work from then on! I was a mischievous, extremely strong-willed little girl who knew her own mind, and if there was ever trouble at our house, I was sure to be found out the main culprit!

I did well at school, became head girl in year 11 and left my local school in Dolgellau with 9A*s and 2As - at that time my dream was to become a doctor. In 2011, I moved school to study for my A-levels as my previous school didn't have a 6th form.

That winter, after doing my grade 8 piano exam and passed with distinction, I turned 17. Passing my driving test was very high on my list of priorities and I loved driving. I passed my test on July 31st, 2012 with only 2 minors. Feeling ecstatic and rather proud of myself, when the examiner said *"I am obliged to tell you that a high percentage of young people who've passed their test have accidents - let's hope you won't be one of them."* I nodded my head, but never considered for a second that I would be one of those 'young people'.

Two months later, on October 2nd 2012, I went to school like any usual Tuesday, and afterwards Dad and I went for a haircut. I needed to borrow the car that evening to go to a job interview I had at a local hotel at 6:30pm. Mum met us at the hairdressers with the Clio I was insured to drive. She warned me there was a lot of water on the road due to awful rain we'd had that day, and to drive carefully. I replied *"Yeah, aquaplaning!"* rolling my eyes, like I knew all about it. I went to the job interview after visiting my Grandmother and got the job. Walking out of the hotel door is the last thing I remember...I was on my way home when I had the accident.

An eyewitness account from a following vehicle said that I was driving at about 40-45mph when I hit water and a large spray rose on both sides of the car. The rear passenger side spun around 180^{0} and the car hit the kerb on the other side of the carriageway, spun in mid air, went over the metal fence of the adjoining field and barrel-rolled down a steep

If you would like any further information please do not hesitate to contact
Sue.O'Keeffe@wales.nhs.uk

ravine. I was found hanging upside down out of the driver's window, the engine was out of the car about 10 meters away and there was a round, dented, cracked circle where my head had collided with the windscreen even though I was wearing a safety belt. They thought I was dead when they saw me. I don't remember anything of that day (except strangely the job interview) and remember nothing of the following 7 weeks.

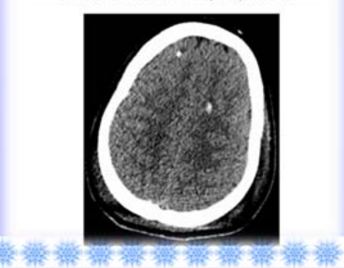
The previous day (October 1st) April Jones had gone missing in Machynlleth and a crew of Mountain Rescuers were on their way down to search for her. They were the first on the scene with medical equipment and got me out of the car through the sunroof and gave me some adrenaline because my pulse was very weak.

My GCS was 8 on scene and paramedics soon realised that this was a serious incident and called for an air ambulance. An RAF SeaKing helicopter was in the air above Dolgellau at the time - dropping troops off to go and search for April - and was at the scene of the accident within 15 minutes of me initially losing control of the car. I was airlifted to Ysbyty Gwynedd, and was in hospital within the 'golden hour'.

After being sedated & scanned I was then transferred to Stoke-on-Trent as the first major trauma victim from North Wales. The contract between Betsi Cadwalader and UHNM had only been signed the day before. My story is a credit to our emergency services who were so efficient that night..

I had critical injuries which included:

1. Closed fracture LEFT temporal bone
2. Fracture floor LEFT orbit
3. Intracerebral haemorrhage
4. Contusions LEFT frontal & RIGHT parietal lobes
5. Diffuse axonal injury
6. Tentorial haemoatoma
7. Cerebral oedema
8. Fracture RIGHT posterior arches C3 & C4
9. Fracture body C5
10. Facet joint widening
11. LEFT lung contusion
12. Laceration RIGHT elbow
13. Contusion over RIGHT distal humerus
14. Laceration to LEFT hand over 3rd and 4th metacarpophalangeal joints
15. Liver laceration



The total of my *Injury Severity Score* was 43.

As news of my accident circulated people at home and abroad began to pray. I received the best possible care by the Critical Care Team in UHNM. I was placed in an artificial coma by the use of thiopentone in the hope that my Intracranial Pressure would lower because it was sky high due to my brain swelling from the shake in the car accident. An ICP monitor was inserted in my skull and my condition was stabilised to the best of the Trauma Team's ability. I came very close to having a craniotomy to relieve the pressure, but thankfully it never stayed too high for long enough, even though it was 50+ at times.

For the first couple of weeks in Critical Care, things were getting worse, not better. Doctors described it as taking one step forward then three steps back:

October 7th: My condition was deteriorating rapidly and no one knew why. A nurse called Vicky was working that shift with the consultant Chris Thompson - she had cared for me from the very beginning and is an excellent nurse. My abdomen had swollen massively and my condition was too unstable to be taken for a scan and Vicky thought I might be going into cardiac arrest..

In the end things got so bad that the Doctors had to take the risk of moving me and taking me in for a scan in order to see what was happening. In the meantime my family were told to come and say goodbye to me because they didn't know how the scan was going to go. My family came to see me for what everybody thought might be the last time, as the staff were rushing the bed through the corridor.

The scan revealed that the majority of my small intestine had become ischaemic. The surgeon came to tell my family the news and said he would have to

UHNS 07/10/2013 19:23

operate to remove the ischaemic bowel that was poisoning me, and if more than two thirds was ischaemic I would not survive.

In the early hours of the morning Surgeons undertook the task of removing the dead bowel . Over two thirds of my small intestine was removed - all who were in the theatre that night expected me to die on the operating table, but miraculously, I survived.

<u>October 8th</u>: Because they had done the minimum amount of work needed to keep me alive the previous night, I was taken back into theatre to finish the operation. The plan was to fit a stoma, but there wasn't enough bowel left to do this. Surgeons had to join both ends together and hope for the best.

<u>October 9th</u>: The thiopentone was stopped and my family were told <u>if</u> I were to regain consciousness it would be in 24-48hrs. I had 10-12ltrs of excess fluids in my body and weighed 11st or more.

<u>October 10th</u>: I had full blown Clostridium difficile - now my large intestine was suffering. This was near enough inevitable with the stress my body was under and all the medication I was on. I think the most important fact to highlight here is that nobody else in the unit has contracted C.diff. which goes to show how well the team managed the infection, and informed my family and visitors of the necessary requirements when visiting me (i.e. hand washing, gloves & apron etc).

<u>October 11th</u>: Mum was keeping a diary from the day of the accident and wrote on this day - *"No change, this is hard Meg."* I still wasn't responding even though the thiopentone had been stopped 48hrs ago.

<u>October 12th</u>: I suffered a brief asystolic arrest for no apparent reason, and had to be resuscitated.

<u>October 13th</u>: I had been running a very high temperature for days and even though numerous tests had been taken, no result indicated why it was so high; therefore they decided to scan me. The plan was to scan my abdomen but the 'happened' to scan a little lower and found that I had two, very large, deep vein thrombosis in my iliac veins. To prevent the clots from travelling to my lungs and killing me, a filter was placed in my vena cava. It was also discovered that there was a little collapse at the bottom of my left lung.

UHNS 13/10/2012 13:19hrs

<u>October 15th</u>: *"It might not get any better than this."* Doctors prepared my family that I could possibly remain in a permanent vegetative state because I still wasn't showing any signs of response. Things were not looking good, I was still alive, assisted by the work of the amazing staff and machines. But gradually things did improve:

<u>October 16th</u>: I opened my eyes a tiny bit. My eldest sister had bought a relaxing piano CD and was playing it in my room in ICU. Whenever it was played my ICP went up.

<u>October 17th</u>: I moved my right arm a little bit on my own for the first time, but my left side was paralysed for quite a while.

<u>October 18th</u>: One of my best friends, Joseff and his Mother, who is also a very close friend, came to see me. Before they left Siân she said *"Right Meg, I'm not leaving here until you've given me some 'A's on your ventilator machine."* Sure enough 3 'A' for 'assisted' [breathing] appeared on the ventilator.

<u>October 20th</u>: I opened my eyes and gave the weakest smile ever. Even though I was conscious now, I don't remember anything. Doctors still warned Mum and Dad that they were most likely to have a severely handicapped daughter, and they wouldn't have the same 'Megan' back. My Parents started considering a house move that would be better adapted for a disabled person.

<u>October 20th</u>: I developed a lower pole splenic infarction.

<u>October 25th</u>: According to my parents Dr Brian Carr is a wonderful Doctor whom I hope to meet one day so I will be able to thank him for his work.

He had been very concerned about my condition from the beginning. Whenever he saw my parents and Mum in particular, he would look so concerned and say things like *"I can't imagine what you're going through."* Mum had not once seen him smile. But on this day, when Mum saw Dr Carr, he smiled! She knew that I had turned some sort of a corner and was a little better.

November 2nd: My eldest sister, Alaw, and Mum were in the room with me, and for some reason they had a biro. I made a motion for them to give me the biro and when they did, I clicked frantically it so that the tip went in and out at lightning speed! They were so excited that I knew what a pen was, and gave me some paper to see what I would do. I scribbled something that didn't look like writing at all – but Mum could make out my initials – MAJ.

November 3rd: I wrote my name with a heart "Megan <3" Dr Chris Thompson who had assessed me the previous day was surprised to say the least!

November 13th: Siân came again and before she left this time she said *"Next time I come and see you I'll bring you a gift. What can I get you? A bit of bling or something?"* I still couldn't speak because I had a tracheostomy in, but wrote down on a piece of paper *"Siân's engagement ring."*. Now Siân has a beautiful engagement ring, with a large amethyst and diamonds around it! I don't remember asking for this, but Siân teases me that I knew exactly what I was doing! When my rehab consultant, Dr Alex Ball, saw that I'd written this, she knew that my recovery would be good – I'd come to a conscientious decision about what I wanted, drew a picture of the ring and it involved some humour too.

November 14th: I had coughed blood some days before, and I had an endoscopy to see why. Dr Lao discovered I had ulcers in my oesophagus, stomach and duodenum. The worst ulcers were clipped to prevent bleeding, but it was discovered that I also had an oesophageal stricture about 6cm long which apparently is common in Critical Care patients and the problem is usually sorted after one or two stretches. I was being fed via a Naso-Gastric tube at this time. Dr Lao did say at the time *"I think I'll have to do this again."* How prophetic were his words! I had the first stretch to the stricture in my oesophagus on this date.

November 16th: I moved from Critical Care onto a Neuro Ward…….I was in critical care for six and a half weeks in total, but I don't remember any of it. I was having some crazy hallucinations like being a drug addict riding a motorbike around the country, filling my petrol tank at different stations then driving off without paying! I had a line in my hand to inject the drugs and didn't want to hand cash over the till and reveal that I was a drug addict!

When I was discharged from Critical Care, Simon Davies – one of the Major Trauma Co-ordinators and a great guy – wrote that I was a *"Complex admission with several complications."* I believe this was putting it kindly!

My first 'proper' memories are in the Neuro Ward. Like many patients post ICU I didn't feel safe on the ward, but despite this I felt a calmness that I cannot put into words. I still wasn't myself for many months, but I knew what had happened - that I was in hospital after a car accident. I felt that this all had happened for a reason – I wasn't sure of that reason yet but I knew deep down that God had kept me alive and worked miracles for a reason and surprisingly, I didn't feel resentment or bitterness about the situation.

One night I was having a nightmare (about a nurse!) and I pulled my tracheostomy out. I vaguely remember bells ringing and people rushing in – there was a panic because I couldn't breathe, until I vomited everywhere and could breathe again. When Mum came in the next morning and saw there was no trachy, just a gauze over the hole, she said *"I didn't know they were taking the trachy out!"* I wrote - *Took it out myself, it was a drama!"*

Even though the trachy was out I made no effort to speak. This was causing concern that the brain injury might have affected my speech. But on November 22nd I whispered my first word when a nurse asked if I knew what month it was, in a weak voice I replied *"November"*.

I was only on the neuro ward for 10 days, and then transferred to Haywood Hospital to a Specialist Rehab ward – this would be my home for the next 4 months. I went to Haywood on November 27th and loved it at Broadfield Ward. I got on well with all the staff, the atmosphere was calm and quiet there and I could trust them.

As a result, I've made some life long friends, and I've also been back to visit a couple of times.

I had my 18th Birthday on Broadfield, and it was such a special day. The fact that I was still here to celebrate my Birthday was a miracle, but everybody went to such an effort to make it extra special. I had my first bath since the accident (one of my favourite nurses made sure of that!) and that bath was the best yet.. My Parents gave me an iPhone –the link to the outside world was great and I could now access the social media sites 24/7! In the evening some close friends arrived and I was allowed the day room to myself to have a 'party'!

Christmas was a week later, and even though it was like no other Christmas we've had as a family before, this day again was also extra special. Mum went to Waitrose (a treat!) and bought food for a cold buffet and staff had laid out tables in the day room, so the six of us could eat together as a family.

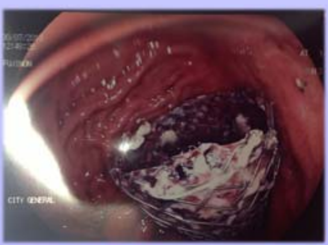
On the subject of food, sometime during my time in Critical Care I was given an N.G. tube so that I could be fed (I pulled it out a few times when I was in Critical Care – I'm glad I don't remember that!). Earlier on in December the tube had been taken out in Haywood, and I was expected to start eating again. But I wasn't swallowing my own saliva, let alone eating food. I was assessed by a S.A.L.T. who thought that my swallowing was fine but when I ate I would regurgitate the food. Doctors thought my ability to swallow had been affected by the brain injury. I still wasn't a 100% myself; all I knew was that I couldn't/didn't want to swallow.

I was taken back to UHNM Endoscopy Unit for investigations, it was discovered that the stricture had closed up tight, therefore explaining the regurgitating and lack of swallowing.

On discharge form UHNM I had a Neuro Consultant – the wonderful Italian - Ms Erminia Albanese. I was also under Dr Alex Ball, who is equally wonderful, and was my rehab consultant but, at that time, I did not have a GI consultant. During my time in Haywood, I was in a vicious circle of NG's being taken out, trying my best and struggling to eat; I couldn't even drink I regurgitated everything that went down back up, a new NG being placed to 'feed' me and then Haywood contacting the Endoscopy Unit at UHNM. Then, I'd be taken to the Endoscopy for a stretch and be back at Haywood the same day, and the whole circle happened again.

I was meant to be there to gain strength and do physiotherapy, but because I couldn't eat I was weak and underweight and I rarely had enough energy to do much exercise, it was a vicious circle.

In the end I was placed under the care of bariatric consultant Mr Cheruvu, who ensured me that he wouldn't be performing gastric bypass surgery on me! He thought the best way to progress would be to move on from the stretching with a balloon, and to try a different method. He used rods to open the stricture, and this was a lot more painful and the stricture closed up faster than the balloon method. He considered removing my oesophagus and stretching my stomach up but after considering the state of my bowel he ruled against it. He contacted other gastro consultants up and down the country but nobody had any answers, they all agreed that he had a problem on his hands. The next move was to place a stent in my oesophagus; this was done on March 20th, 2013. I was taken back to Haywood on the same day, and for the next five days I vomited countless times. I couldn't even keep water down, and was placed on IV fluids. But my veins were so bad by this point that cannulas would stop working after less than a day! After the vomiting had continued for 4 days, I was x-rayed and it became obvious that the stent had slipped down and was holding the sphincter muscle of stomach open hence all the vomiting! The decision was to take me back to UHNM to sort out the slipped stent, Dr. Alex Ball insisted that I stayed under the Gastro Team until my complicated oesophagus was fixed! I missed Haywood terribly but I knew that Alex had made the best decision.



I was in UHNM for the last two months of my time in hospital mainly under the care of Dr Lao and Dr Glass (two wonderful gastro consultants). During this time stents were fitted and clipped in place, slipped, and then another placed. One stent did stay in the correct place for four weeks, but this was a month of the worst pain I've ever endured so far. I was on oramorph, voltarol and other strong painkillers, but these only scratched the surface of the pain. I would get a spasm up my oesophagus so that I would double over in pain, and when these spasms occurred they would travel right up through my teeth to the front of my forehead. I was given several x-rays to see if the stent had slipped therefore causing so much pain, but it was still in place. The pain was a mystery. I didn't eat anything and relied entirely on my NJ tube for nutrition, but I did drink ice cold fluids that would give my hurting oesophagus some relief.

After four weeks I was still struggling to drink. I needed another endoscopy; the next thing I knew, Dr Lao and Dr Glass' heads appeared through the curtain that was pulled around my bed. An unexpected slot had appeared and they were taking me down for an endoscopy right this minute.

It was discovered that a membrane of skin had grown over the top and bottom of the stent. The stent that had caused me so much pain came out and I've kept it as a souvenir! A new one was placed and although I was in moderate pain, it didn't compare with the pain I was in before. The next day Mr Cheruvu came over to see how I was doing and found me sitting up in bed, eating some fish and chips. He exclaimed – *"Look at her!"* pointing at me, *"She is a different woman! You can go home tomorrow young lady!"*

That word – *'home'!* My discharge had been planned twice previously but didn't happen; this time I was not going to raise my hopes only to be disappointed again. I didn’t think I was well enough to leave hospital, because I was weak, underweight and still receiving treatment for my oesophagus.

On a gloriously sunny day on June 7th, 2013, Mr Cheruvu strolled into the bay and announced that I was to go home and come to into the endoscopy unit to remove the stent after 6 weeks or whenever needed.

Mum and I packed my many belongings - after such a long stay in hospital I had collected quite a stash - three trolleys full, this included a supply of feed, giving sets etc and meds! So it was after 8 months and 5 days in hospital, I was finally allowed home permanently! I had been granted ward leave on several weekends from March to May, but those weekends felt like a holiday and by the Sunday night, I wanted to go back to hospital! It sounds bizarre saying that now, but I felt secure in the hospital and it was what I was used to after recovering from the coma, I suppose I had become institutionalised. The original plan to return to Stoke for a visit after 6 weeks at home didn’t quite go to plan. After a few days home, I could feel my oesophagus closing up like it had in the past. I groaned inside thinking I would have to go back into hospital full time. I had the direct number to endoscopy, so we called and arranged to go back the next day. Sure enough, the stent had slipped; it was taken out and replaced with a new one. Thankfully, it was only a day trip and I returned home after having a new stent fitted the same day.

For the next 6 months, I returned to the Endoscopy Unit in Stoke numerous time, every two weeks or so. In total I had six stents fitted and they all slipped. Dr Glass and Lao retreated back to the original form of dilatation using a balloon. I didn’t enjoy eating and relied heavily on my Nasojejunal tube which had been in since May. Food hurt after I swallowed and I had to drink a lot of water to wash anything I swallowed down. As my stricture was completely ‘unique’ medics didn’t have a clear plan of what to do, but had to ‘play it by throat’ (mind the pun!). I knew my oesophagus so well by now, that I could tell when it was time for a dilatation.

Around October 2013, Dr Lao had a brainwave. He thought of injecting the steroid ‘kenalog’ intramuscularly into the stricture itself would reduce inflammation and prohibit the formation of fibrous scar tissue, therefore aiding the healing. This was done late October and the results have been fantastic. On December 20th, 2013, my NJ tube was removed because it was thought I could manage without it. My face felt naked for weeks without it, and I looked like a ‘normal’ person now! Since this, things have been getting **better and better**.

In February 2013, I was discharged from the neuro perspective by Ms Albanese who couldn’t believe the extent of my recovery and the fact I am still the same girl I was before and can still play the piano!

In September last year I started school again part time and did my AS year again to see how I would cope. Things went well, and I remembered all of the work I had done! There I was, sitting in class thinking *"I remember all this! What's the point?!"*

I'd have to remind myself that it was a miracle I was even alive, let alone being back at school and remembering all the work! Things could have been very different. As the weeks passed, I was regaining strength and going for physio (although doing the exercises at home rarely happened!). In September this year I returned to school full time to finish my A-levels with a clear ambition in sight. I want to become a nurse. Having received such excellent care from so many different individuals, I have been inspired to care for others in the same way I liked to be cared for. To work for the NHS would be an honour after it has done so much for me and I would feel so privileged to care for others. Instead of playing the victim of a terrible car crash and a horrific past two years, I can channel the insight I gained to being a patient and all the countless things I learned in hospital, into something positive that would aid others! I submitted my UCAS application to study nursing in November and have received three offers to come for an interview, I'm still waiting to hear from Edinburgh University.

On December 11th, I attended Keele School of Nursing for an interview; it seemed to go much better than what I'd imagined. I will know if I've been successful in 2-3 weeks. It would be amazing not only for me, but also for those who cared for me in Stoke (and the Haywood), to see me doing my nurse training at the hospital where I was a patient for so many months!

I have an interview in Southampton for dual nursing (adult&child) on January 9th and in Swansea on the 23rd of January – I'll be sure to let Sue [O'Keeffe] know how they've gone! Working for the NHS would be something so worthwhile to do with my life after being given a second chance, and I'd love to give something back.

I have told my story at numerous events over the past 18months, one of which included a Major Trauma Event in St Asaph, organised by Sue. After I had finished presenting, Sue announced a surprise; a man came up and gave me a big hug. Sgt Paul (Haz) Hunter was the paramedic who was in the SeaKing helicopter with me on the way to Bangor–I almost burst into tears in front of everyone. It was amazing to see another individual who had played a crucial role in my story, and then to be able to thank him in person. Many people who participated in saving my life are yet still to be met and thanked, but I am so, so grateful to each and every one of them.

I still have to go back to Stoke for dilatations, but as a result of the steroid injections, the stricture is closing much slower. A year ago I was going back for stretches every fortnight – I've now gone without and dilatation for 12 weeks, which is just fabulous! Eating is much improved, and less water is needed to 'wash the food down'. When I do go back, I try and arrange it so that I'll be on the propofol list. I've had 35 endoscopies and a side-effect of having midazolam so often is that I've built a resistance to it.!!

That's my story so far...I'm so excited; hopefully there will be more to add in the future. I hope you're inspired by it - it proves that the work you do in the healthcare profession does change lives for the better, and I admire you all so much for what you do. I cannot thank the trauma team, specialist rehab team and the NHS enough. We are **so** privileged to have the NHS, people are all too quick to criticise it instead of appreciating it. Whilst it is important to acknowledge mistakes and learn from them, I think it is also important to focus on the positive aspects and changes. As Helene Donnelly (ambassador for cultural change in the NHS) said *"There is no room for negativity now."*

I will continue to share my story and give the NHS, Trauma and Rehab team the praise they deserve. By the grace of God, and your hard work I am alive and I am so happy that I can share my story with you.

Yours, Meg.