Shane's Journey

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The Air Ambulance Service

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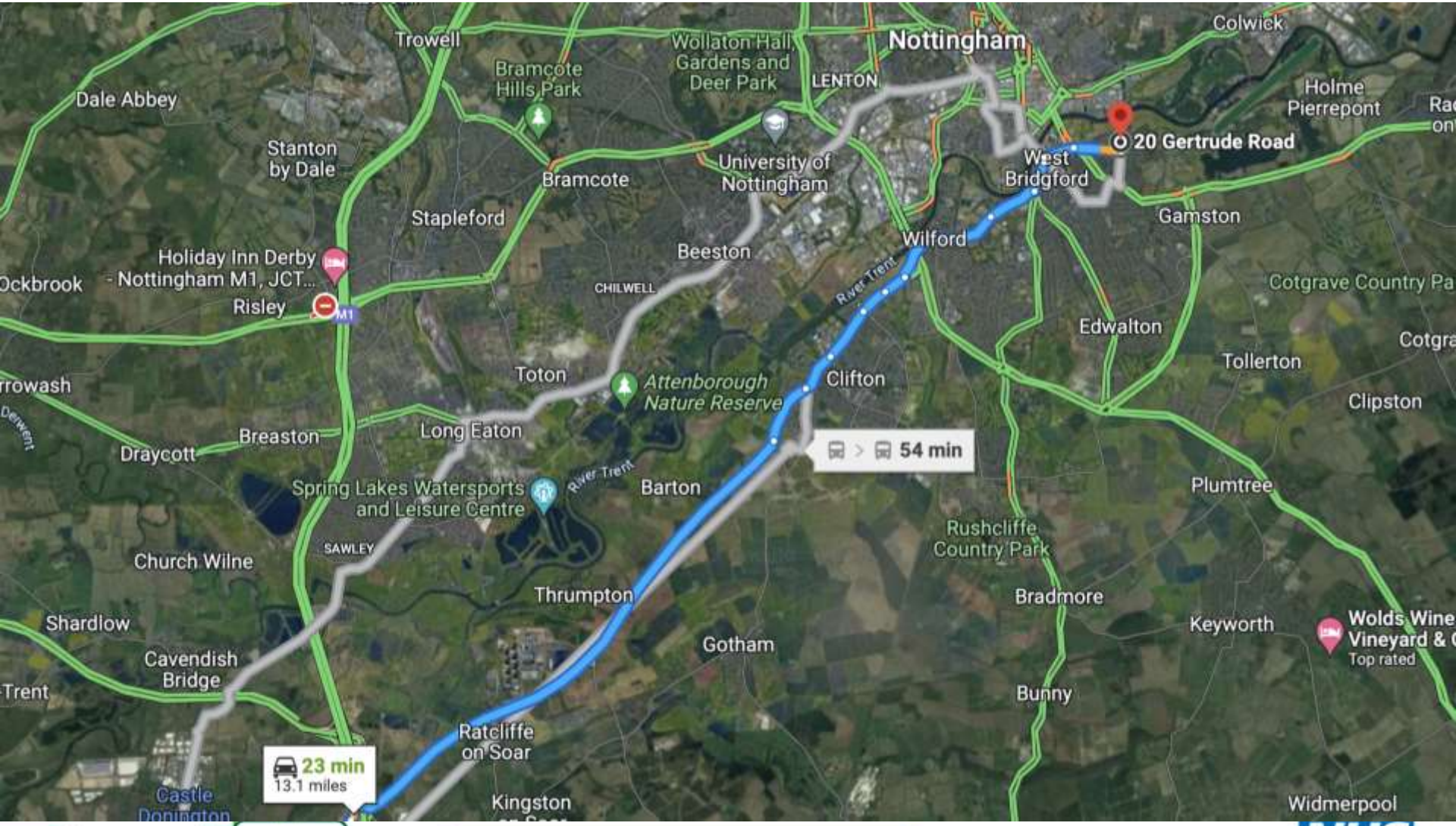

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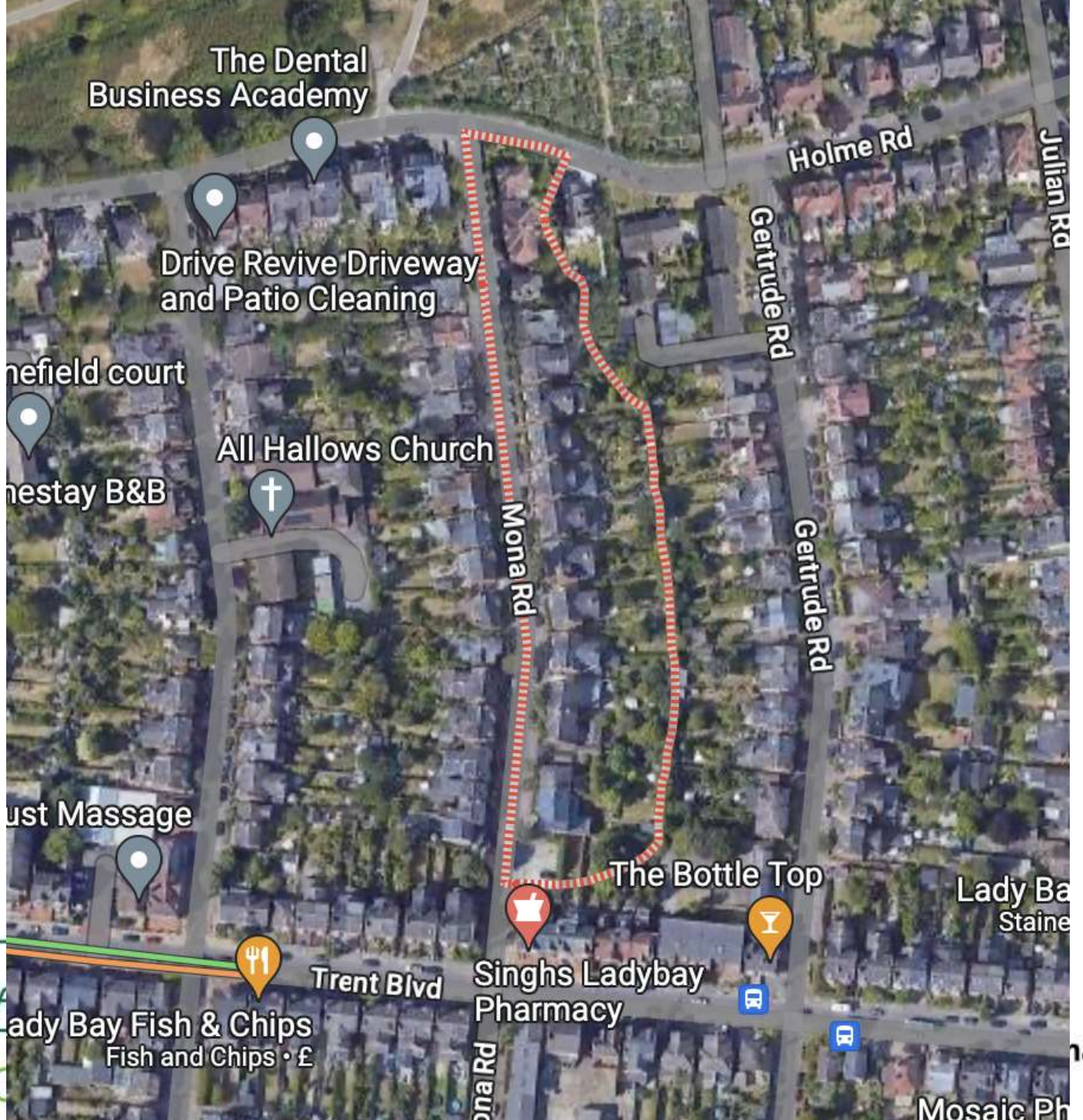

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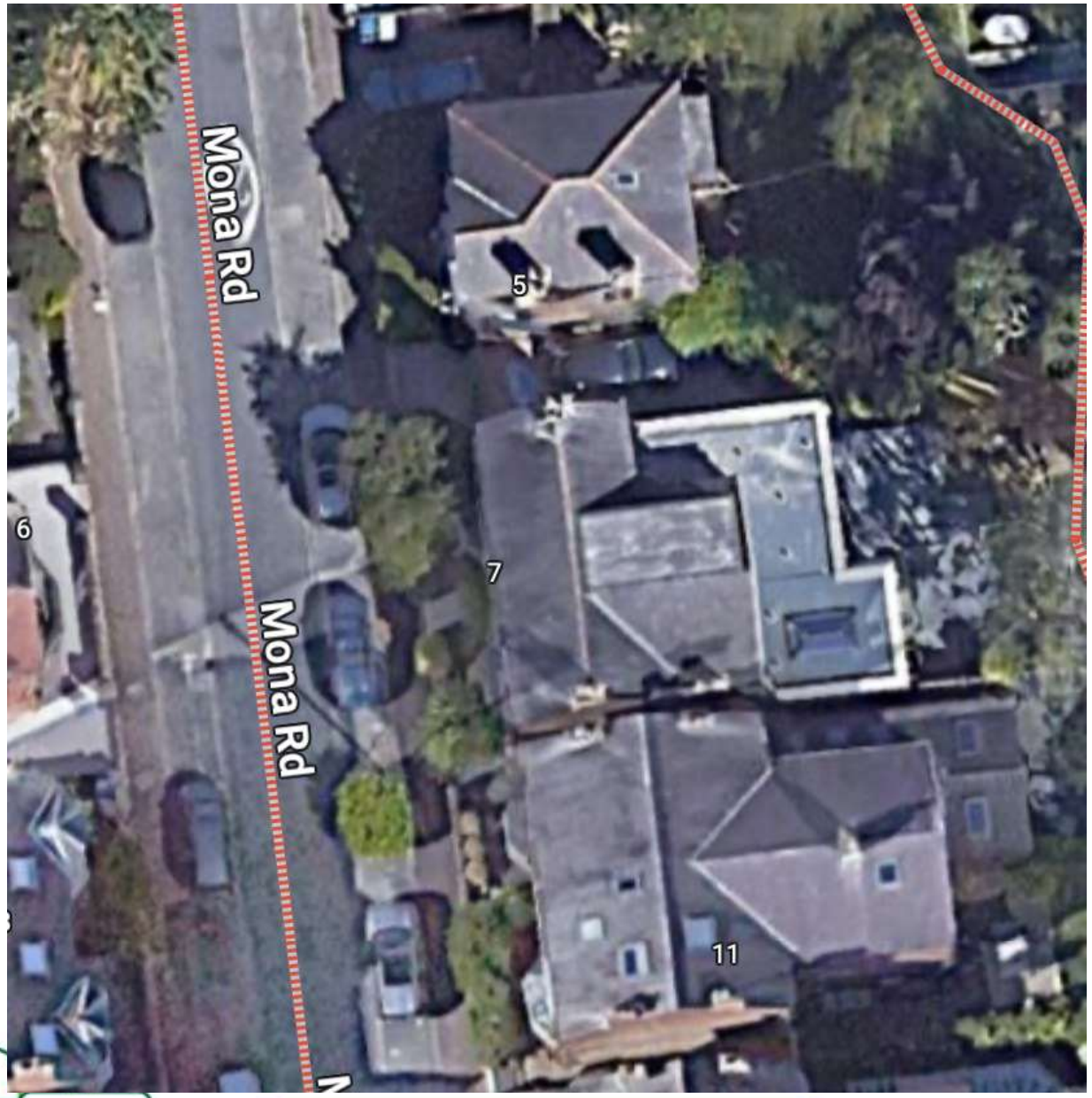

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Pre-hospital care- primary survey

- Fall from scaffolding – right sided head injury / ?neck injury
- Initial reports directly on to head and wound/bleeding/apnoea and then noisy breathing
- EMAS life saving actions – oxygen and jaw thrust

- M54 arrival – bleeding from head 200-400ml mixed in water on floor
- GCS 6/15 (M4/V1/E1) and moving all 4x limbs

  - agitated and fighting staff – good colour
- Possible decreased air entry on left lower chest
- Bleeding controlled

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Treatment

- Priority IV access – secured by EMAS Rt and Lt ACF
- Gain control prior to next steps

- 1044hrs Ketamine in aliquots – 20 + 20 + 20 + 20mg (total 100mg)
- 1048hrs Midazolam boluses – 1 + 2 +1 + 1mg (total 5mg)

- Shane then calmed and oxygenated for pre-hospital emergency anaesthesia
- Worked with EMAS and colleagues to form a temporary platform for this with breeze blocks

Treatment- PHEA

- Placed and secured on scoop stretcher
- MILS / Jaw Thrust
- PHEA check list completed
- PHEA induction of anaesthetic at 10:59hrs
  - Fentanyl, Ketamine and Rocuronium (100/100/100)
  - Intubated at 1100hrs (blood in airway and swollen cords) – 1st pass
- Initial desaturation to 88% with HR 150/min with decreased air entry left base and chest movement to left side
- Prepared for left side thoracostomy

But rapid spontaneous resolution to SpO2 96% and normal chest mvmt

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Incident Timings

• Time of 999 call	1022hrs	
• Received by TAAS	1024hrs	2 mins
• Mobile to scene	1026hrs	4 mins
• On Scene	1041hrs	19 mins
• RSI	1059hrs	37 mins (18 mins on scene)
• Left Scene	1114hrs	52 mins
• Arrive Hospital	1124hrs	62 mins at MTC QMC

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Treatment

- Pre-alert to hospital at 1113hrs
- Loaded to DCA – thank you EMAS
- No ventilation issues post ETT
- Worked on way to hospital to lower EtCO2 to target range

- Stable short transfer – only 10 mins
- PHEA maintained with fentanyl boluses

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Primary Survey findings in ED

Catastrophic haemorrhage

Massive haemorrhage protocol activated pre arrival

Pelvic binder applied pre-hospital

- **A**irway: intubated pre-hospital
- **B**reathing: trachea central, sats 96%, equal bilateral air entry
- **C**irculation : HR 135, Bp 121/73, Lactate 2.5
- **D**isability: GCS 3/15, pupils size 6 sluggish, Bm 12.2
- **E**xposure – blood around his head, obvious deformed left wrist

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Timeline

- Time of injury 10:22
- Time of arrival in ED 11:24
- Primary survey immediately on arrival
- Time to CT 11:40
- Directly to theatre from CT

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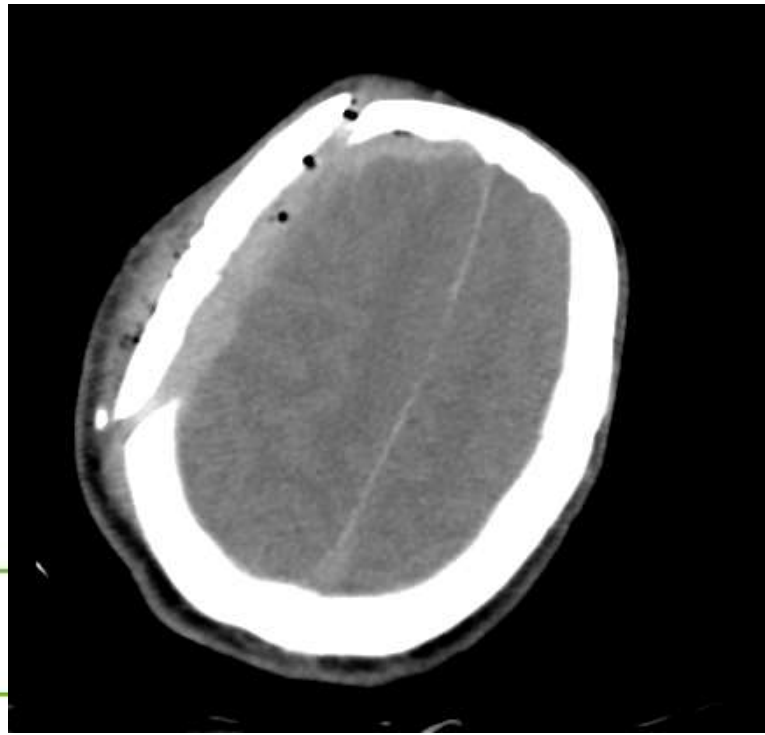
Injury list

Significant head injuries

- Large Sub Dural Haemorrhage- locules of gas within
  - Frontal contusions with marked mass effect
  - Cerebellar tonsils protrude through the foramen magnum
  - Parenchymal contusions in the R frontal lobe
  - Cerebral oedema



Injury list

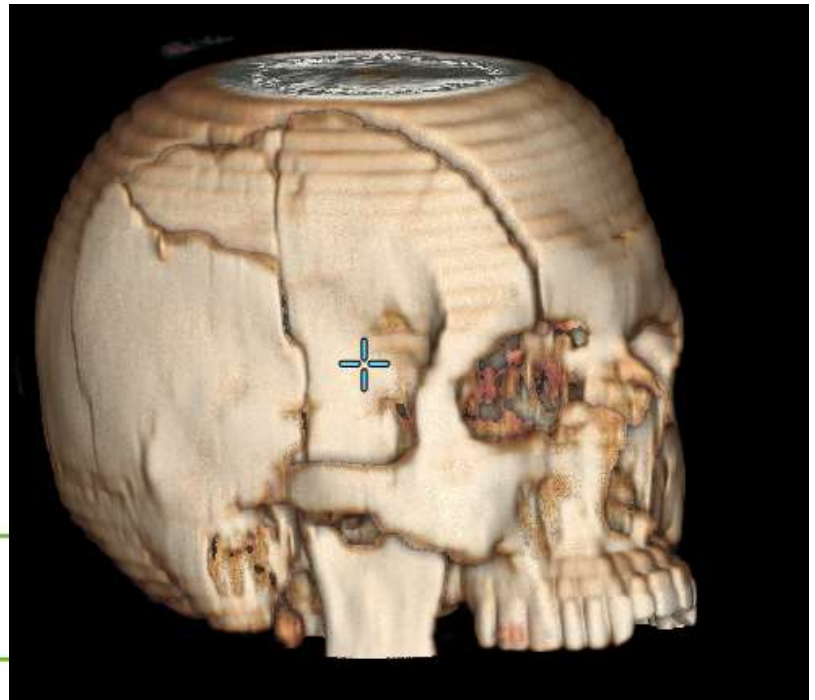
Significant head injuries

- Subarachnoid haemorrhage with mid brain compression
- Right frontal, parietal + temporal bone fractures
- Increased size of cranial collection seen on CT
- Fractures of the right frontal, parietal and temporal bone
- Fractures through the right carotid canal
- Base of skull fractures

Injury list

Extensive right sided facial injuries

- R eye proptosis with stretching of the right optic nerve
- Fractures of the lamina papyracea on the right
- Fractures supero-medial right orbital wall with large associated intraorbital, extracoronal haematoma
- R orbital wall and zygomatic arch fracture
- Sphenoid sinus fracture



Injury list

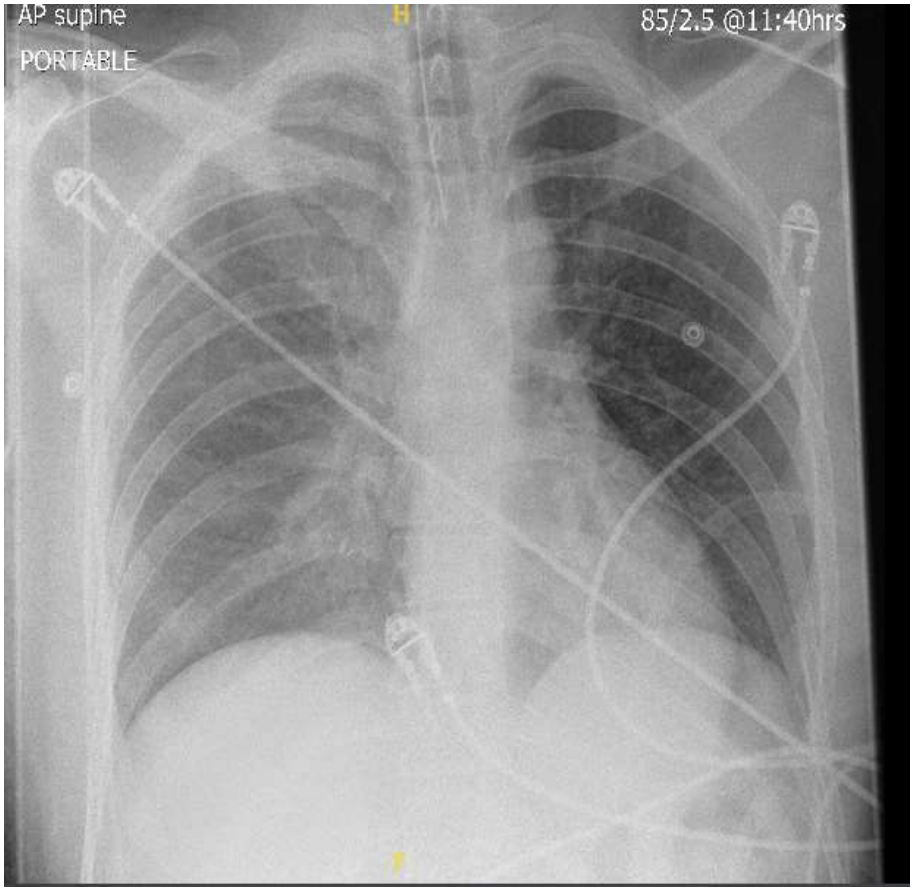
Spinal injuries

- L C6-C7 articular pillar and C7 TP fractures
- T6 and T7 vertebral body fractures involving sup endplates.
- T6 sup facet fractures
- R T5-9 TP fractures and T6 articular pillar
- Spinal Sub Dural haemorrhage seen on MRI 21/06

Injury list

Chest injuries

- Right 3-9 rib fractures
- Right haemothorax with bilateral pulmonary contusions



Injury list

Orthopaedic injuries

- Left distal radius fracture
- Left comminuted scapula fracture
- Mild disruption of ACJ

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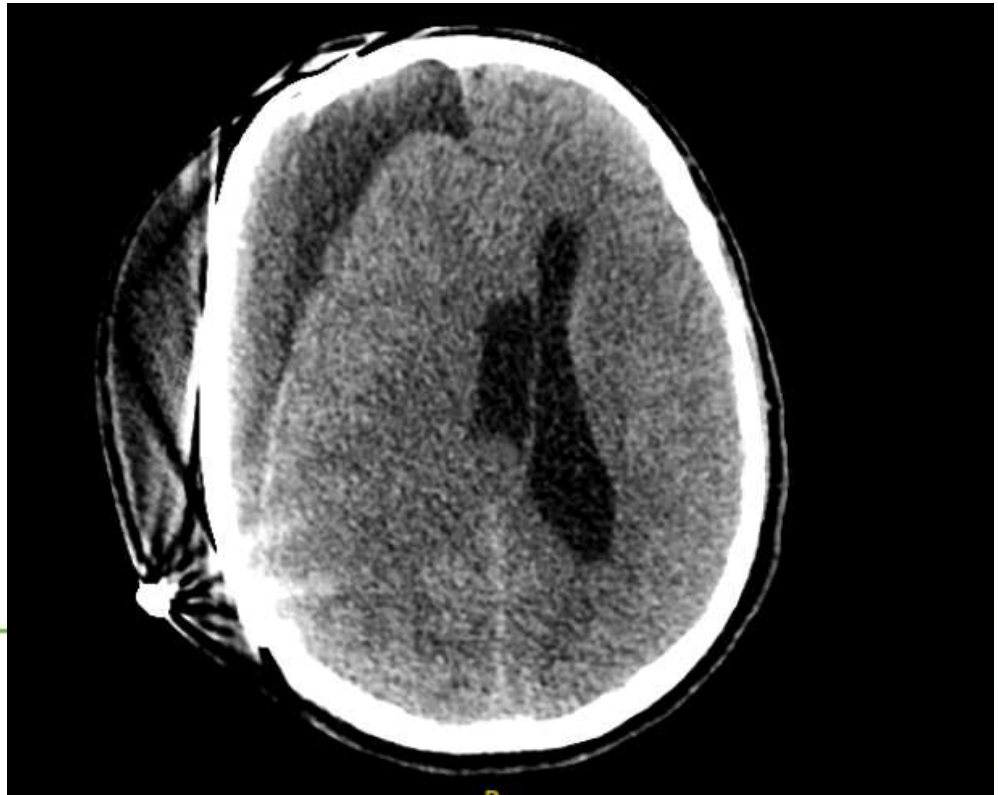
Interventions

- Multiple CT's, MRI's & x-rays
- 19/06 Craniectomy + ICP bolt
- 19/06 Intercostal Chest Drain inserted - removed 24/06
- 02/07Tracheostomy inserted -removed 14/10
- 12/07Open reduction & internal fixation of L distal radius fracture
- 24/07 Repeat CT head : large pseudomeningocele
- 2/8/19 Lumbar puncture to drain CSF to reduce pressure

Interventions

- 21/8 Cranioplasty performed
- 30/8/19 CT post Cranioplasty
  - Increased size of the right cerebral convexity extra-axial fluid collection
- 30/08 Subdural collection drained, burr hole. 1x drain
- RIG inserted



Timeline in hospital

- 19/6/ 2019 Date of arrival
- 1 month on critical care
- 14/7/19 Stepped down to C30 MT Unit
- 21/8/19 Cranioplasty then admitted NSPU
  - Multiple transfers within the hospital on different wards
  - C30, D11, NSPU
- 17/10/19 transferred to Linden Lodge
- 19/11/19 discharged home (5 months after admission)

Ellen Clark is with **Shane Clark** at **Linden Lodge Neuro Rehabilitation Unit.**

17 Oct 2019 ·

It's been a long road but we're here! The stepping stone to home.... Still aiming and hoping for Christmas 🤞💪🥰

Have to say the biggest thank you to every single member of staff within NUH Major Trauma Forum C30 for getting us to this point. And from my point of view, when my world had fallen apart, they held me together too and I'll never forget that ❤️ From the whole family, thank you a million times

We'll see you soon and Shane will be walking back through the doors to thank you himself 🥰 xxx

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NEWS

Dad-of-five who was in hospital for five months from roof fall is back home with family for Christmas

23:00 5G

nottinghampost.com

SHARE

"I can't remember it happening. I was in a coma for a while.

"It's going to be an amazing Christmas. The last few weeks have been so good seeing my kids and wife. It could have been so different.

"I'd also like to say a big thank you to the staff at QMC and Linden Lodge (neurological rehabilitation unit) at City Hospital. They were amazing."

Lessons learned

- Listen to the relatives concerns

- Minimise moving complex patients around the hospital
  - Confusing for patient and relatives Increases risks of deteriorating pts not being picked up as quickly impacts on communication and continuity of care
  - should ideally stay on the MT ward

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What went well?

- Early intubation at the scene to:
  - Protecting the airway with low gcs
  - Reduces risk hypoxia , managed oxygenation Reduces risk aspiration All if which reduces risk of secondary insult Consultant led care
- 14 mins to CT after arriving in ED
- Straight to theatre from ED

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