frustration adversely impacted aspects of clinical reasoning. Students struggled when witnessing what they considered ‘bad’ behaviour as it contradicted their previously held ideals of how physicians should act.

It seems we teach students to try to internalise emotion yet that it is acceptable to let it negatively impact patient care. To combat this, students sought greater emotional transparency from physicians as well as advice on self-management strategies. Clinicians recognised the benefits of being candid but were afraid of being so. Contributing to this is the culture in medicine being one that mistrusts emotion. Further, both groups desired a formal curriculum addressing emotion in clinical reasoning thus suggesting one is needed.

Aims/Objectives/Background Mild traumatic brain injury (mTBI) accounts for one million emergency department attendances in the UK every year. Whilst 30–50% of patients suffer from persistent symptoms, unselected follow up would overwhelm the health care system. Magnetic resonance imaging (MRI), may help to stratify patients for clinical follow up and interventional trials. We therefore aimed to identify:

1. Neuroanatomical features of concussion on MRI and
2. The optimal timing for magnetic resonance imaging (<72h or 2–3 weeks after injury).

This is the largest study to date using serial scanning acutely in patients with mTBI.

Methods/Design Data originated from two prospective cohorts: the Collaborative European Neurotrauma Effectiveness Research in Traumatic Brain Injury (CENTER-TBI) study (2014–2017) and a local cohort (2012–2013). Eligible patients presented to hospital within 24h of a mTBI (Glasgow Coma Score 13–15), satisfied local criteria for computed tomography scanning and interventional trials. We therefore aimed to identify:

1. Neuroanatomical features of concussion on MRI and
2. The optimal timing for magnetic resonance imaging (<72h or 2–3 weeks after injury).

Results/Conclusions The study included 81 patients (73 from CENTER-TBI, 8 local) with a median age of 44 years (range 14–85) and 57 (70%) men. Within patients, cerebral white matter volume decreased (MR1/MR2 0.98, p=0.001) and ventricular volume increased (MR1/MR2 1.06, p<0.001). Compared to controls, white matter volume was normal on MR1 (patient/control 1.00, p=0.277) but reduced on MR2 (patient/control 0.97, p<0.001). Diffusion changes followed one of three trajectories: progressive injury, minimal change, or pseudonormalisation. Conussion symptoms worsened, improved and were variable in the three groups respectively (delta [IQR] ± 5.00 [+2.00–+5.00], ±4.5 [–9.25–+1.75], ±2.00 [–6.25 to +9.00], p=0.018). MR1 predicted three-month outcome better than MR2 (AUC [95% CI]: 0.93 [0.83–1.00] vs 0.72 [0.51–0.92]).
303 WHAT GOES BUMP IN THE NIGHT? A LITERATURE REVIEW AND NOISE EXPOSURE EXPERIMENT IN A UK PAEDIATRIC EMERGENCY DEPARTMENT

Lucy Hall, Sophie Dando, Anthony Hanks. Student at Cardiff University; University Hospital UK

Aims/Objectives/Background In the Emergency department (ED), noise is a frequent and often unavoidable consequence of work undertaken and levels can often be raised during the day and night. Raised ambient noise levels have potential implications for the workforce, patients and relatives.

Investigation into the problem of noise levels in the ED follows feedback from a young patient who couldn’t sleep during a prolonged stay. His complaint focused on loud, irregular banging noises such as those from closing bins that kept him awake.

The team felt work should be done to see if it was a wider spread problem or just isolated to his case. A simple sound recording experiment and literature search was conducted.

Methods/Design The literature search was conducted using electronic/online databases (Medline; Cochrane library) with a fixed date range and specific inclusion criteria.

The noise exposure experiment was conducted using a verified phone app to record the sound levels. They were measured at 3 times, during a night shift, in the paediatric emergency department of UHW. All measurements were at a fixed distance and were averaged and compared with WHO recommendations.

Results/Conclusions There are many sources of noise pollution in the ED, some are unavoidable for safety and clinical reasons.

The literature review produced a small number of papers all of which found that sound levels were raised above recommended levels. Similarly, all the sounds measured in the ED also exceeded the recommendations.

The most consistent finding across the papers, matched by findings from recordings, was that human behavioural modification is an easy and effective way to reduce noise levels.

There are simple steps that can be taken to reduce and eliminate sounds

Raising awareness regarding this problem is of great importance and focussing future work on assessing the impact in younger patients within the Emergency Department is paramount.

A CLASSIFICATION OF PRIMARY CARE PATHWAYS IN EMERGENCY DEPARTMENTS: A MULTI-METHODS STUDY COMPRISING CROSS-SECTIONAL SURVEY; SITE VISITS WITH OBSERVATIONS; SEMI-STRUCTURED AND INFORMAL INTERVIEWS

Michelle Edwards, Alison Cooper, Davies Freya, Andrew Carson-Stevens, Thomas Hughes, Niro Sitinwardena, Helen Snooks, Adrian Edwards; Cardiff University; John Radcliffe Hospital; Lincoln University; Swansea University

Aims/Objectives/Background We aim to describe and classify the predominant streaming pathways on arrival in Emergency Departments (EDs) in England and Wales and explain how they operate in different models of emergency department primary care services. Recent policy has encouraged a method whereby nurses stream from the emergency department front door to GPs working in a separate GP service operating within or alongside an ED. However, there is variation in methods of assessing and streaming patients on arrival at EDs. Conflated terminology causes difficulties in assessing relative performance, improving quality or gathering evidence about safety, clinical effectiveness. Our findings present a new classification of current streaming pathways from emergency departments to primary care services.

Methods/Design We used a multi-stage method approach, including an online survey completed by 77 EDs across England & Wales, interviews with 21 clinical leads, and finally, undertaking case studies of 13 EDs. Qualitative data were triangulated and analysed using a framework analysis approach.

Results/Conclusions The most common ED pathways to primary care services were: front door streaming before ED registration; streaming inside the ED; or without streaming but GPs selecting patients. Pathways were often adapted, to