Data pertaining to duration of dialysis at presentation, duration of follow up, estimated GFR at follow up, proteinuria, blood pressure percentile, dialysis requirement and transplantation was collected. Additional information pertaining to mortality and co-morbidities were also collected. Information on pneumococcal serotype in post 2007 cases [following PCV vaccine introduction in UK] was also collected. Research protocols were approved by regional governance teams.

Results Long-term outcome data was available for 16 of 38 patients who were previously reported¹. All patients presented with P-HUS between April 1999 and February 2010: Median age at presentation: 10 months (IQR:8,17), M:F 6:10, (0.6). Median duration of hospitalisation: 37 days (IQR:23,75 days). Median eGFR 54 mls/min/1.73 m² (IQR:25,81) with median duration of follow-up: 10 years (IQR: 8,12). At time of follow up, none were on dialysis but three patients [18%] had received renal transplants without recurrence. Nine patients [56%] were on anti-hypertensive treatment at follow up, 7 of whom are on monotherapy [ACEI(5)] and 2 on dual therapy [ACEI with other]. Three patients had persistent proteinuria. Individual data will be presented. Following PCV7 introduction in 2010, the predominant serotype was 3 [previously 19A] and after PCV13 introduction, no cases of P-HUS have been observed since 2012.

Conclusion Over 60% of P-HUS patients under follow-up have chronic kidney disease. Ongoing analysis involving more UK centres is underway including those discharged from care.

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G22

AN OBSERVATIONAL STUDY OF CHANGE IN OXYGENATION INDEX (OI) AND PAO₂/FIO₂ (PF) RATIO FOLLOWING ADMINISTRATION OF METHYLPREDNISOLONE FOR PAEDIATRIC ACUTE RESPIRATORY DISTRESS SYNDROME (PARDS)

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Aims Indiscriminate corticosteroid use in pARDS is likely to be harmful, and the development of a randomised, controlled trial (RCT) may be difficult as corticosteroid exposure is very common.¹ The only existing RCT evidence is involving adult patients, and a recent meta-analysis is suggestive of benefit.² We have performed a retrospective observational study of serial OI and PF ratio measurements in a cohort of patients with pARDS and failure to wean from invasive mechanical ventilation at 7 days. All patients were treated with prolonged, low dose methylprednisolone.

Method All patients in a single, general PICU treated with methylprednisolone for pARDS between 01 st January 2011 and 31 st December 2016 were included. OI and PF ratio were calculated daily from admission until weaned from invasive mechanical ventilation.

Results 55 patients. Median age 10 months, 45% female. The majority had a respiratory infection as the trigger for pARDS and 95% had significant co-morbidity. Median duration of methylprednisolone therapy=11 days.

Median OI was highest on the day of commencement of methylprednisolone (20, IQR 15–30.5) and was significantly improved on day 4 of treatment ($p=0.0021$ Wilcoxon test).

Median PF ratio was lowest on the day of commencement of steroids (96.5, IQR 63–124) but not significantly improved on day 4 of treatment ($p=0.0529$ Wilcoxon test). Adverse effects observed included new infections in 40%, hypertension in 9% and hyperglycaemia in 13%. The frequency of these were not different between survivors and non-survivors ($p=0.284$, 0.644 and 0.1 respectively).

Survival to ICU discharge was 69%.

Conclusion This data is limited as it is single centre retrospective analysis. However, the appearance of a temporal association between an improvement in respiratory status and commencement of methylprednisolone is suggestive of a possibility of benefit and should therefore be explored further in an RCT, or a multi-centre, comparative effectiveness study.

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G23

WHAT IS THE IMPACT ON NURSING STAFF CARING FOR CHILDREN WHERE LEGAL JUDGEMENTS HAVE BEEN SOUGHT TO WITHDRAW LIFE-SUSTAINING THERAPY?

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Aims In recent years legal judgements have been sought more frequently seeking withdrawal of life-sustaining therapy (LST) for patients in paediatric intensive care units (PICUs). However, there is limited information regarding the impact these cases have on nursing staff. This research aims to explore the impact on staff caring for children where legal judgements have been sought to withdraw LST.

Methods Qualitative research was conducted using data collected from semi-structured interviews. A purposive sample was selected ensuring all participants have had experience caring for children in these circumstances. Exploratory research enabled detailed insight into the impact of these situations in addition to participant's experiences and perspectives.

Results Our findings have shown that the majority of participants feel caring for these children impacts negatively on their mood; this was commonly associated with beliefs that the nursing role actively contributes to prolongation of suffering. Managing relationships with the child's family has been found to be one of the most demanding aspects of caring for children when such judgements are sought. A number of complex components involved in the formation and maintenance of these relationships have been explored, all of which appear to result in significant additional stresses for the nursing staff involved. Further findings suggest that less experienced staff find it harder to dissociate themselves from the emotional aspects of these situations and as a result experience more psychological impact. Despite this, relatively little senior support is routinely offered; participants felt that this is due to the relative clinical stability of the children. Consequently, staff morale is perceived to be low when such children are on the unit.

Conclusion Our findings highlight numerous contributors that are involved in nursing staff being negatively impacted by

caring for children where legal judgements have been sought to withdraw LST.

G24(P) A SALTY ALLERGY

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Hyponatremia, unless associated with extracellular fluid volume expansion, is an uncommon paediatric electrolyte imbalance. We report an infant presenting with chronic hyponatremia suggestive of a syndrome of inappropriate secretion of antidiuretic hormone (SIADH); however without ADH secretion. In this case, a gain-of-function of AVPR 2 was found to be responsible for a SIADH-like state. Only very few cases have been reported in the literature.

A healthy 19 month old presented to his local hospital with a tonic-clonic seizure, demonstrating a sodium of 119 mmol/L. A few months prior, hyponatraemia was noted in the context of a lower respiratory tract infection, treated with a short course of sodium chloride supplementation with no further follow-up. Recently he was diagnosed with cow's milk protein allergy. His mother described him being a poor water drinker with infrequent wet nappies.

He was developing appropriately with no significant family or social history. He examined normally. Over 48 hours, he received six hypertonic (2.7%) saline boluses. His sodium remained refractory (116–122 mmol/L) and nephrology input was sought. Results showed serum osmolality of 250 mosm/L, urinary osmolality of 520 mosm/L and urinary sodium of 171 mmol/L. Chest radiograph was normal.

On transfer to tertiary nephrology services he was normotensive with unremarkable examination.

Investigations demonstrated:

Abstract G24(P) Table 1

Paired results	Blood	Urine
Sodium	119 mmol/L	137 mmol/L
Potassium	5.3 mmol/L	12.4 mmol/L
Creatinine	8 μ mol/L	0.9 mmol/L
Osmolality	252 mosm/L	387 mosm/L

*Paired results showed fractional sodium excretion of 1%

CT head, renal ultrasound and renin/aldosterone, cortisol, thyroid function were normal. Paired plasma and urine results suggested syndrome of inappropriate antidiuresis (SIADH). No secondary causes were apparent; thus nephrogenic syndrome of inappropriate antidiuresis (NSIAD) caused by gain of function mutation in AVPR2 was postulated.

Analysis of the AVPR2 gene confirmed this x-linked dominant disorder (mutation (c.409C>T)). Familial testing revealed his mother as a carrier, with subtle retrospective symptoms.

We suspect the patient had chronic asymptomatic hyponatremia, acutely exacerbated by full switchover to oat milk in view of allergies, which has little protein content. This lowered his tubular osmotic load and coupled renal water loss.

In conclusion, NSIAD can mimic SIADH and should be considered if no secondary cause found combined with a positive

family history; though this was initially lacking in our case. This is the first case we have diagnosed in our centre.

G25(P) HOW COMMON IS EXCHANGE TRANSFUSION WITHIN PAEDIATRIC INTENSIVE CARE

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Aims Exchange transfusion is becoming less frequently performed in neonatology. It is however still advocated in a myriad of paediatric disorders. Evidence describing the frequency of exchange transfusion within the paediatric population is limited.

This retrospective observational study aims to describe the epidemiology of exchange transfusion within UK and Irish Paediatric Intensive Care Units.

Methods Retrospective data was requested from the Paediatric Intensive Care Audit network (PICAnet) with regards to completed exchange transfusions within Paediatric Intensive Care Units (PICU) from the UK & Ireland between 2007 and 2015.

Results In total 559 exchange transfusions within UK and Irish PICUs were reported to PICAnet between January 2007 and December 2015. During this time 167,462 PICU admissions were also reported. This equated to an average of 62.1 exchange transfusions per year and an incidence of 3.3 exchange transfusions per 1000 PICU admissions.

During the study period, exchange transfusion rate varied by age, with: 16.1% occurring in neonates, 24.9% in non-neonates <2 years, 16.6% in 2–5 year olds, 27.2% in 5–12 year olds and 15.2% in >12 year olds.

The observed frequency of commonly recognised indications for all reported exchange transfusions were; Sickle cell disease 37.2%, pertussis 4.7%, neonatal jaundice 3%, leukaemia 3%, neonatal polycythaemia 0.4% and neonatal anaemia 0.2%. No exchange transfusions were performed for malaria. The indication for exchange transfusion was unclear in 41% whilst 10.6% of exchange transfusions occurred in a reported setting of solitary congenital heart disease.

90% of children requiring exchange transfusion within PICU survived to PICU discharge.

Conclusions Exchange transfusion was reported in 3.3 per 1000 UK and Irish PICU admissions between 2007 and 2015. The majority (41%) occurred in children under 2 years of age. The most common indication for exchange transfusion within PICU was sickle cell disease.

Acknowledgement The authors would like to thank PICAnet for providing the data using in the study.

G26(P) PAEDIATRIC INTENSIVE CARE SURVIVAL IN SEVERE PERTUSSIS REQUIRING EXCHANGE TRANSFUSION

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Aims Early exchange transfusion is advocated for the management of severe pertussis with leukocytosis. Little is known regarding survival rates within this population.