Results All 3 patients presented with neurological symptoms which pose a diagnostic challenge as often confused with primary neurological disorder. All the differential diagnosis including nutritional, metabolic and neurological was considered and excluded. The acute episode management included IV fluids, sodium bicarbonate correction, strict restriction of enteral carbohydrates with resolution of symptoms within 24–48 hours. Patient 2 required insulin which helped resolve the acidosis swiftly. She continued to present with recurrent D lactic acidosis despite low carbohydrate diet, cycling antibiotics, STEPP procedure for bowel dilatation, D lactate free probiotics and currently established on partial parenteral nutrition. Patient 1 is doing well on carbohydrate restricted diet only. Patient 3 remains on restricted diet, antibiotics with active weaning of parenteral nutrition. Recolonization of the intestine with non-pathogenic floras remains a long-term treatment goal.

	Patient 1	Patient 2	Patient 3
Age at Presentation/ Gender	5yrs/M	5yrs/F	1.8yrs/F
Presenting symptoms	Unsteady gait and slurred speech	Ataxia, slurred speech, drowsiness and inability to sit.	Vomiting, decreased oral intake, ataxia and feeling generally unwell
Underlying diagnosis	Gastroschisis	Complex gastroschisis	Necrotising enterocolitis
Bowel length	8cm of small bowel from DJ flexure with jejuno-colic anastomosis	50cm from DJ flexure with jejuno-colic anastomosis	23cm from DJ flexure with jejuno-colic anastomosis
Presence of ileocecal valve	No	No	No
Colon present	Yes	Yes	Yes
Bowel lengthening procedure	Yes	Yes	No
Parenteral Nutrition	None	4 days a week	3 days a week
Cyclical get decontamination	Yes	Yes	Yes
D lactate level at the time of presentation	>582 micromol/L	>10,000 micromol/L	6000 micromol/L
Weight	25th centile	50th centile	25th -50th centile
Height	50th centile	9th-25th centile	50th centile

Conclusions D lactic acidosis is an uncommon condition, but likely an under recognized syndrome. Physicians should be aware of the risk factors and presenting symptoms while keeping a high index of suspicion, as early detection leads to effective management of the condition. Diagnosis is made by a combination of clinical and laboratory data including special assays for D-lactate. Although there is safe and effective treatment strategies, multidisciplinary approach, compliance to dietary recommendations help reduce the incidence but in rare cases novel emerging therapies need to be considered.

British Society of Paediatric Endocrinology and Diabetes

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AUDIT OF HbA1c OF CYP IN BARNET & CHASE FARM DIABETES SERVICE BETWEEN 2012–19 TO ASSESS IMPACT OF CARB COUNTING AT DIAGNOSIS AND INTRODUCTION OF PUMP SERVICE

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10.1136/archdischild-2021-rcpch.525

Background Type 1 diabetes (T1D) is associated with reduced life expectancy[1]. Poor metabolic control in childhood strongly correlates with premature death in adulthood[2]. For children and young people (CYP) with T1D, improvements in glycaemic control, as measured by glycated haemoglobin (HbA1c), reduces the risk of developing long-term complications. HbA1c at 1-year post diagnosis is a strong predictor of future glycemic control[2]. Since 2016 NICE has recommended CYP with T1D aim for a HbA1c of ≤ 48 mmol/mol. Level 3 carbohydrate counting soon after diagnosis and intensive insulin management are important tools in achieving this [3 4].

Objectives Our aim was to identify the impact of introducing carbohydrate counting from diagnosis and the development of an insulin pump service on glycaemic control.

Methods Barnet and Chase Farm hospitals current caseload of CYD with T1D is 165. In 2014 the trust merged with the Royal Free London NHS trust, with an additional 50–60 CYP. We conducted a retrospective audit of all CYP diagnosed with T1D within the Barnet and Chase Farm paediatric service between April 2012 and March 2019. Patients were analysed in yearly cohorts to mirror the National Paediatric Diabetes Audit cycle. HbA1c was categorised into <48 , <58 and >80 mmol/mol at 1-year and 2-year post diagnosis. Comparison was made between years, noting significant changes in the local service, such as the introduction of carbohydrate counting from diagnosis and the insulin pump service.

Results A total of 149 CYP were diagnosed with T1D at Barnet and Chase Farm Hospitals over the period (average 21/year). 29 patients left within the first year, leaving 120 for analysis. There is improvement in glycaemic control at 1-year across the audit period (graph 1). Increasing numbers of CYP achieve target HbA1c <48 mmol/mol (10% 2013 versus 31% 2019) and fewer have extremely poor control with HbA1c >80 mmol/mol (26% 2013 versus 6% 2019). Improvements in patients achieving lower HbA1c is noted after the introduction of carbohydrate counting from diagnosis in 2015, whereas a reduction in very poor control is evident after the pump service began in 2017. These changes are sustained at the 2-year HbA1c (Graph 2). Mean HbA1c for the all service users improved over the same period (76.2mmol/mol to 67.7mmol/mol).

Conclusions The introduction of carbohydrate counting at diagnosis and the development of a local pump service positively impacted glycaemic control of new patients with T1D at 1-year. Such early changes are likely to improve long-term HbA1c and reduce the risk of complications from diabetes.

Supporting this, improvements were sustained at 2-year. HbA_{1c} at 1-year is a useful barometer for the impact of changes to services.

British Society for Rheumatology

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RHEUM TO INSPIRE: A MEDICAL STUDENT PERSPECTIVE ON THE IMPACT OF COVID-19 ON MEDICAL EDUCATION AND CHILD HEALTH

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10.1136/archdischild-2021-rcpch.526

Background When my Medical School announced my elective would be cancelled, and restricted to the local area, I was devastated. Months of planning which country to visit, medical opportunities there and making a holiday out of it were all lost. I had to quickly make a new plan. With no ideas for my future career, I considered specialties I had previously enjoyed: Paediatrics and Rheumatology.

Objectives I hope to provide an alternative perspective of the challenges and opportunities faced by Medical students and Child Health.

Methods With a large tertiary Children's Hospital close by, I contacted the Paediatric Rheumatology department to enquire. I reflect now, eight weeks after starting my Paediatric Rheumatology elective, having found my future career.

Results With the COVID-19 pandemic came a new style of working. Consultations via telephone and video link became commonplace, a frustrating concept being it is difficult to learn from these without face-to-face interaction. There was the additional issue of room space. Often face-to-face consultations or ward rounds were limited to a small number of essential staff, leaving no capacity for me to join. This new style of working however did appear to work for some patients, especially those who would normally have to travel far. Children whose arthritis was stable, or anxious parents insistent on shielding appeared happy with telephone appointments. Whilst periodic examinations are important, I feel there is scope for technology being continued for consultations post-pandemic, especially in stable, well children and those who travel far.

I did however witness the disruption COVID-19 has caused, especially on waiting times. Three month follow-ups became six months plus. Many children presented with worsening arthritis and increasingly problematic symptoms. Some had stopped their medication, either through parental fear of immunosuppression and COVID-19, side effects, or lack of motivation. Without regular follow-ups, these remained undetected for longer than previously. The increased number of arthritis flares I witnessed was supported by a service evaluation I conducted of steroid use prior to and during the pandemic. Preliminary results appear to show more 'fire-fighting' of flares during lockdown, and poorer outcomes. Lockdown has provided a unique opportunity to observe the need for a 'zero tolerance' approach to arthritis, something which should be imperative moving forward.

With the pandemic, brought Paediatric Multisystem Inflammatory Syndrome Temporally associated with COVID-19 (PIMS-TS). This new syndrome added extra challenges and

pressures to the Rheumatology team. There were critically unwell children with long admissions, added to the backlog of usual work. I witnessed an overworked and pressured team, who were still welcoming and advocating for their patients. This is something I admire and the team were clinicians I aspire to be.

Conclusions Overall, I have witnessed many challenges faced by children and their families in this pandemic. I have seen opportunities moving forward, for the integration of technology and proactive approach to treating arthritis. For me personally, the pandemic has brought many challenges, with loss of loved ones and disruption to medical training, yet I thank the pandemic for giving me the opportunity to find my future career.

Association of Paediatric Emergency Medicine

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SUSPECTED CERVICAL SPINE TRAUMA IN THE PAEDIATRIC POPULATION – HOW VITAL IS THE ODONTOID PEG VIEW?

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10.1136/archdischild-2021-rcpch.527

Background Although rare, cervical spine injuries (CSI) can have devastating consequences. Use of c-spine CT in adult trauma is widespread. However, the desire to limit radiation exposure, along with recognition that CSI are uncommon in children, means that plain x-rays are the more commonly used investigation in children with potential CSI.

NICE guidance recommends 3-view c-spine x-rays (antero-posterior, lateral and odontoid peg views – the latter in co-operative children who can open their mouth). However, risks of repeated exposure due to technical difficulties, and concerns that the view does not add diagnostic value raises questions about the added value of the odontoid view.

Objectives For children presenting to a Paediatric Major Trauma Centre (MTC), who required c-spine x-ray imaging, we aimed to:

- Estimate the incidence and type of CSI seen
- Determine the proportion with an adequate odontoid peg view, and the added value of repeat views.
- Estimate an age cut-off at which odontoid peg views may be pragmatically performed as routine.

Methods Data was extracted from the digital radiology database over a 5-year period for all children up to 16-years of age who had 3-view c-spine x-ray series for trauma. Demographic data and outcomes including incidence of CSI were obtained.

Each series of images were reviewed by two blinded reviewers for quality and adequacy. Reviewers used quality criteria as defined by the European Guidelines on Quality Criteria for Diagnostic Radiographic Images in Paediatrics. Inadequate films were those that met less than 50% of the quality criteria.

Results 271 patients were included: 66 were aged <10 years (with 231 radiographs performed), and 205 children aged