CYP and parents were consulted about their experiences of oral mucositis, and potential future treatment options, through NIHR-funded patient involvement activities, and low-level laser therapy (LLLT) was identified as an approach warranting further exploration.

LLLT is a NICE-recommended treatment option for oral mucositis, based mainly on research in adults. It is not currently used for CYP in England or Wales. We determined to conduct an updated systematic review evaluating the evidence for the efficacy and tolerance/safety of LLLT in CYP undergoing treatment for cancer.

Methods Standard systematic review methods were used (protocol registration: PROSPERO CRD42018099772). Two reviewers systematically searched medical databases, contacted authors and reviewed study references. Studies had to include patients with a diagnosis of cancer; use LLLT prophylactically or as a treatment; and, for assessing efficacy, include CYP less than 18 years old, and be a randomised control trial. For the safety/tolerability analysis, all study types and ages were included.

Results 3390 results for initial screening were identified, with 115 full texts assessed for efficacy, and 159 for safety. LLLT is generally well tolerated, and may be effective at treating oral mucositis, but there is uncertainty around the optimal protocol due to the heterogeneity of results. Different protocols were used, adopting various frequencies, dose, timings and wavelengths of LLLT.

Conclusion CYP must not be left behind when new evidence and treatment options become available for adults.

LLLT has many ways of administration, and further research is needed to assess the efficacy and appropriate use in CYP.

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G179(P) EMERGENCY MANAGEMENT OF ACUTE PAINFUL CRISIS IN PAEDIATRIC SICKLE CELL PATIENTS; INVESTIGATING ANALGESIC TREATMENT DELAYS AT A DISTRICT GENERAL HOSPITAL

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Aims To evaluate the initial management of sickle cell (SC) patients presenting to our Paediatric Assessment Unit (PAU) with vaso-occlusive crisis (VOC), with focus on time to first dose of analgesia.

Methods Retrospective review of data extracted from electronic medical records for VOC cases presenting to our PAU between July 2016 to July 2019. Multi-linear logistic regression analysis was performed to investigate the effect of various parameters on times to analgesia.

Results A total of 95 VOC cases from 52 unique patients were analyzed. Demographics and clinical characteristics are demonstrated in table 1. Time to analgesia was over the 30-minute standard in 63% of cases. The mean time from arrival to administration of analgesia was 54 minutes and from prescription to administration was 11 minutes. For the majority of patients (89.5%), initial analgesia included a fast-acting opiate (intranasal diamorphine or fentanyl lozenges). Receiving

Abstract G179(P) Table 1

Age	
Range	2–16 years
Mean	9.6 years
Gender	
Female (%)	50 (53%)
Genotype	
HbSS	85 (89.5%)
HbSC	5 (5.3%)
HbS/beta Thalassaemia	5 (5.3%)
Mode of arrival	
Car	77 (81.1%)
Ambulance	18 (18.9%)
Time of presentation	
In hours (9am–5pm)	37 (38.9%)
Out of hours (5pm–9am)	58 (61.1%)
Pain score on presentation	
Mild (0–3)	2 (2.1%)
Moderate (4–6)	24 (25.3%)
Severe (7–10)	69 (72.6%)

analgesia within 30 minutes of arrival was significantly associated with high pain score on presentation ($p=0.06$). There was no significant association with mode of arrival ($p=0.47$), time of presentation ($p=0.7$) or the use of an integrated care pathway tool ($p=0.13$). Although age overall did not have a significant effect ($p=0.36$), subgroup analysis showed that the 12–16 years age group was more likely to receive analgesia late ($p=0.04$).

Conclusions Door-to-analgesia times were often prolonged for paediatric SC patients presenting with VOC. High pain score on arrival was linked with shorter times to analgesia, but most other parameters examined did not significantly affect times to analgesia. Targeted quality improvement projects for timely emergency pain management in paediatric SC patients are needed, with particular emphasis on the 12–16 years age group, as it appears to be particularly susceptible to analgesic treatment delays.

G180(P) EXPLORING EQUITY, PATIENT EXPERIENCE AND ENGAGEMENT IN PAEDIATRIC SICKLE CELL DISEASE (SCD): A QUALITY IMPROVEMENT PROJECT

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Aims

- To evaluate paediatric SCD patient experiences of outpatient, inpatient and emergency services at a district general hospital
- To understand the factors contributing to a 20% rate of missed clinic appointments for SCD
- To implement changes to paediatric SCD services that improve outpatient clinic attendance and patient experiences

Methods Primary data were collected from June 2018 to August 2019, through the following:

- Semi-structured questionnaire with patients and carers

- Qualitative interviews with patients and carers after missed clinic appointments
- Audit (SCD Acute Pain Management Audit) of NICE guidance (CG143)
- Statistical Analysis of Index of Multiple Deprivation (IMD) for all SCD patients, those who missed clinic appointments, and those attending A&E

Results Semi-structured questionnaire (n=12):

- 66% of patients presented to A&E for urgent treatment rather than GP or home treatment
- 33% had needed emergency treatment in the last 6 months
- 60% of patients stated their pain was treated quickly in A&E (40% not quickly enough)
- 30% felt A&E staff did not know enough about SCD
- Qualitative interviews (n=5):
- Reasons given for missing appointments included: too many appointments, financial difficulties, travel difficulties, unwell child, appointments booked too far in advance
- Suggestions from families to improve appointment attendance included to send a closer reminder and to follow up telephone confirmations with a letter

SCD Pain Management Audit (n=28):

- Pain was assessed using an age appropriate scoring tool in 89% of cases
- We offered analgesia within 30 minutes in only 46% of cases
- 73% were prescribed laxatives when on opioids, and 47% were prescribed anti-emetics or anti-pruritics

Statistical Analysis (n=5190):

Preliminary analysis has shown:

- Using the IMD of residence, the most deprived (groups 1–3) had higher rates of missed hospital appointments when compared to groups 4–8
- An increased rate of admission was observed if at least one outpatient appointment was missed

Conclusion Higher rates of missed appointments were observed in the most deprived groups and correlated with increased admissions. Financial difficulties may contribute to missing hospital appointments, adding to health inequities in this vulnerable group.

The next phase will include implementing changes to improve paediatric care and accessibility, including considering virtual or community clinics.

G181(P)

PROPHYLACTIC RED CELL AND PLATELET TRANSFUSIONS IN PAEDIATRIC HAEMATO-ONCOLOGY PATIENTS: LESSONS FROM A UK SINGLE-CENTRE RETROSPECTIVE AUDIT

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Aims Transfusion of blood components carries significant risk. Adherence to national guidelines on transfusion thresholds standardises patient care and helps guide decision making. Such guidelines are currently less evidence-based in paediatric

than adult practice. This audit aims to capture real-world practice in a tertiary centre paediatric haematology/oncology unit.

Methods Blood transfusions to inpatients over four months between October 2018 and January 2019 were retrospectively analysed. Transfusion details, pre- and post-transfusion haemoglobin and platelet counts, and patient characteristics were obtained from BloodTrack and the electronic patient record (EPR). Patients with haemoglobinopathies were excluded from this audit.

Results Red cell transfusions (n=121) were given to 38 inpatients and prophylactic platelet transfusions (n=127) were given to 21 inpatients. Underlying conditions recorded were ALL (n=14), AML (n=3), Burkitt lymphoma (n=2), aplastic anaemia (n=1), and various solid tumours (n=18).

Red cell transfusions largely conformed to national guidelines, with 95% given to patients with a pre-transfusion haemoglobin below 80 g/l and a median haemoglobin of 72 g/l. Two units of red cells were given in 12% of transfusions.

While 34% of prophylactic platelet transfusions were given to patients with a platelet count $<10.10^9/l$, 38% were given to patients with a pre-transfusion platelet count of $20.10^9/l$ or greater without a valid indication documented in EPR. Half of these were given to a single patient with CMV retinitis at risk of retinal haemorrhage. Recorded pre-procedure platelet transfusions were given before lumbar punctures, surgery, lung biopsy, and tunneled central-line insertions. 6% of these were given at pre-transfusion platelet counts of $>50.10^9/l$, as local guidelines specified a threshold of $<80.10^9/l$ for central line placement.

A small number of patients received the majority of red cell and platelet transfusions; 64% of red cell transfusion and 71% of platelet transfusions were given to six and four patients respectively.

Conclusion This single-centre study shows that national guidelines for red cell transfusions are largely followed in paediatric haemato-oncology patients. However, a small number of complex patients and divergent local guidelines were responsible for low adherence to national platelet transfusion guidelines. To improve local transfusion practice, training of junior staff and spread of guidelines within the department are undertaken, after which re-auditing in 12 months is planned.

G182(P)

IMPROVING CARE OF FEBRILE NEUTROPENIA PATIENTS: A SPECIALISED PROFORMA AND RISK STRATIFICATION SYSTEM

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Aims The occurrence of febrile neutropenia (FN) in paediatric oncology patients is a major cause of morbidity and mortality. Focused and timely management of such patients are essential in preventing progression to sepsis. There has been a recent emphasis on risk-based management of FN patients using prognostic models to stratify them based on risk of severe complications. In line with this emphasis, we are a secondary care centre that developed a specialised FN proforma and risk stratification system. We aimed to evaluate their impact on the care of FN patients in our centre.