RCEM National Quality Improvement Project 2021/2022
Pain in Children
Information Pack

Welcome!

This information pack tells you everything you need to know about participating in the 2021/22 RCEM national quality improvement program (QIP) on Pain in Children.

Quick guide to running a great QIP

Data collection period
Data should be collected on patients attending **from 4 October 2021 – 3 October 2022**.

Data entry portal
Log into the data entry site at www.rcem.ac.uk/audits

Standards
Jump straight to the **Standards**.

Questions
Jump straight to the **Data to be collected.**

Inclusion criteria
- Children between the ages of 5 and 15 (inclusive)
- Presenting to the ED in moderate or severe pain
- Presenting to ED with a fracture to the clavicle, shoulder, humerus, elbow, forearm, wrist, ankle, tibia, fibula or femur
- Presenting with a single fracture but include related fractures (e.g. tibia & fibula, or radius & ulna)
- Includes both open and closed fractures
- Presenting to your ED between 4 October 2021 – 3 October 2022.

Exclusion criteria
- Children aged 4 or under
- Children aged 16 or over
- Presenting to the ED with mild pain or no pain
- Dislocation with no fracture.

Sample size
Please collect data on 5 eligible cases per week.

Data entry frequency
Recommended: enter cases weekly, as above.
Alternative: enter data fortnightly or monthly instead.

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Introduction

The purpose of the QIP is to improve patient care by reducing pain and suffering, in a timely and effective manner through sufficient measurement to track change but with a rigorous focus on action to improve. The Royal College of Emergency Medicine (RCEM) will identify current performance in EDs against nationally agreed clinical standards and show the results in comparison with other departments.

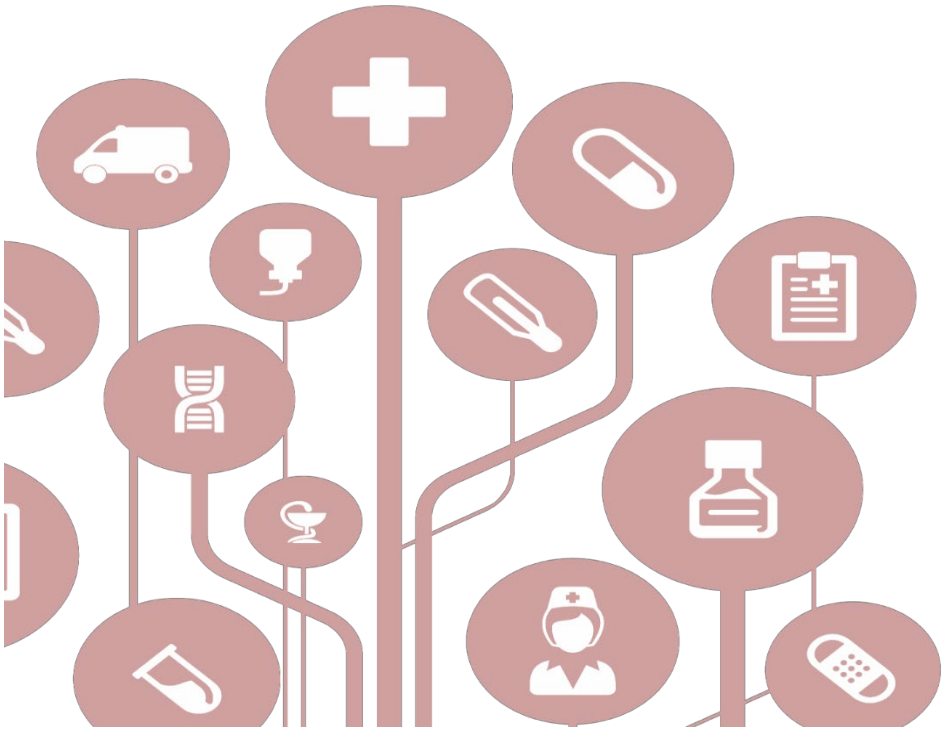
The findings of the 2020/21 Pain in Children QIP indicated that 63% of children had their pain assessed within 15 minutes, which is a positive incline from the previous Pain in Children QIP, where only 32% was recorded. The average time between arrival and first analgesia is 32 minutes, however, only 44% of patients' analgesia was in full accordance with local guidelines. Results also showed 49% received analgesia discharge advice.

There were a worrying proportion of children who were not receiving analgesia despite a documented significant pain score approximately 12% in severe pain and 28% in moderate pain.

National results of the QIP will be published as part of RCEM's work on clinical quality. Participating EDs will also receive a personalised report with their data. This QIP is listed in the Quality Accounts for 2021/22, which require providers in England to report on their participation in identified national QIPs. The RCEM online data collection tool should be used to collect and review the management of children in pain presenting to your ED.

The College is committed to assessing health inequalities relating to patient ethnicity in supporting departments to provide high quality care to all. We will be collecting ethnicity data and monitoring for systemic inequalities and reporting this at a national level.

We hope this year's Pain in Children QIP will continue to highlight key issues in the UK and help to improve the quality of children's care in our EDs.



Objectives

National objectives	How we're supporting you
To improve the care provided to paediatric patients in the ED who present in moderate or severe pain with a limb fracture by:	
1. Identifying current performance in EDs against clinical standards.	• Expert teams of clinicians and QIP specialists have reviewed current national standards and evidence to set the top priority standards for this national QIP. • RCEM have built a bespoke platform to collect and analyse performance data against the standards for each ED.
2. Showing EDs their performance in comparison with performance nationally and in the ED's country in order to facilitate quality Improvement.	• RCEM have built a bespoke platform to collect and analyse performance data against the standards for each ED. • EDs have the flexibility to select the most appropriate comparator to their data, whether this is national or only EDs in their country.
3. Empowering and encourage EDs to run quality improvement (QI) initiatives based on the data collected and assess the impact of the QI initiative on their weekly performance data.	• The RCEM platform includes a dashboard with charts showing your ED's performance, as soon as you've entered the data. • The dashboard charts are SPC charts (where applicable) with built in automatic trend recognition, so you are able to easily spot statistically significant patterns in your data. • The portal has built in tools to support local QI initiatives, such as an online PDSA template. • When you've completed a PDSA template with your team, this is overlaid onto your dashboard charts so you can easily see the impact of your PDSA. • RCEM have also published a QI guide to introduce you to other excellent QI methodologies and enhance your QI knowledge and skills.
Local objectives	
1. To improve pain assessment at patient presentation.	
2. To improve provision of analgesia within 30 minutes for patients in moderate or severe pain.	
3. To improve re-evaluation of pain and appropriate action within 60 minutes.	

Methodology

Inclusion criteria

- Children between the ages of 5 and 15 (inclusive)
- Presenting to your ED between 4 October 2021 – 3 October 2022
- Presenting to the ED in moderate or severe pain
- Presenting to ED with a fracture to the clavicle, shoulder, humerus, elbow, forearm, wrist, ankle, tibia, fibula or femur
- Presenting with a single fracture but include related fractures (e.g. tibia & fibula, or radius & ulna)
- Open or closed fractures

Exclusion criteria

- Children aged 4 or under
- Children aged 16 or over
- Presenting to the ED with mild pain or no pain
- Dislocation with no fracture

Forming your QIP team

RCEM recommends forming a multidisciplinary QI team; including consultants, trainees, PEM specialists, play specialists, ACPs, nursing, pharmacy, SAS, triage, patient reps and others as needed for the topic and to suit your local set up.

A team of about 6 will likely be sufficient to manage but consider the skill mix and how you will share the workload for data collection, education and training, guideline development, action planning, stake holder engagement and importantly team leadership. The person most motivated to improve these standards may be best placed to try and lead and drive this project. Establishing a clear channel of communication early (e.g. Email thread, *Whatsapp* group, monthly telephone call/meeting) to action plan and create PDSA cycles over the 6 months is essential to keeping momentum to raise standards.

Data entry information

Data entry portal

You can find the link to log into the data entry site at www.rcem.ac.uk/audits (registered users only).

Sample size

Please collect 5 randomised cases per week that meet the eligibility criteria. The RCEM national QIPs provide you with a range of features and quality improvement tools. These include a live data dashboard, tracking how your data changes weekly on run charts, and the ability to have your own PDSA (*Plan, Do, Study, Act*) cycles added to your charts.

Data entry frequency

Recommended: To maximise the benefit of the run charts and features RCEM recommends entering **cases each week**. This will allow you to see your ED's performance on key measures changing week by week. PDSA cycles should be regularly conducted to assess the impact of changes on the week to week performance.

Alternative: If your ED will find weekly data entry too difficult to manage, you may enter data monthly or fortnightly instead. The system will ask you for each patient's arrival date and automatically split your data into weekly arrivals, so you can get the benefit of seeing weekly variation if you spread the cases across the month. You must ensure that data is collected the below number of patients weekly, even if that data is retrospectively entered at the end of the month. You can then consider monthly cycles of PDSA with specific interventions and evaluate their impact by reviewing the trend over that month.

Data collection period

Data should be collected on patients attending **from 4 October 2021 – 3 October 2022**.

Please note that these dates are different to the usual dates for RCEM QIPs to allow for staff adjustments to new departments during the August changeover period and to relieve pressures on services during the pandemic which have undergone several redesigns.

Data submission period

Data can be submitted online from **6 April 2022– 3 October 2022**. It is recommended to enter data as close to the date of patient attendance as possible, and to review progress regularly. This will help you QI team spot the impact of intervention more promptly for refinement or disposal depending on the changes observed.

Data Sources

ED patient records including nursing notes (paper, electronic or both).

Flow of data searches to identify cases

Using codes in the appendix first identify all patients attending your ED between the relevant dates, then by age at time of attendance, then through the other relevant criteria.

ECDS codes will be available to support the full QIP.

Quality improvement information

The purpose of this QIP is to continually quality assure and quality improve your service where it is not meeting standards to improve the patient journey and care. The RCEM system allows your team to record details of quality improvement projects (QIP) and see on your dashboard how each initiative affects your data on key measures.

We encourage you to use this feature to try out QIPs in your department. If you are new to QIPs, we recommend you follow the Plan Do Study Act (PDSA) methodology. The Institute for Healthcare Improvement (IHI) provides a useful worksheet which will help you to think about the changes you want to make and how to implement them.

Further information on ED quality improvement can be found on the RCEM website.

The model for improvement, IHI

Standards

Standard	Grade
1. Pain is assessed immediately upon presentation at hospital	F
2. Patients in moderate or severe pain (e.g. pain score 4 to 10) should receive appropriate analgesia within 30 minutes (or in accordance with local guidelines) unless there is a documented reason not to	F
3. Patients with severe or moderate pain should have documented evidence of re-evaluation and action within 60 minutes of receiving the first dose of analgesic	D

Standards definitions

Standard	Term	Definition
Standard 1	Pain is immediately assessed upon presentation at hospital	Within 15 minutes of arrival * *If your system has a triage which is earlier and occurs before your patient is booked in please use that time
Standard 2	Moderate or severe pain	Pain score of 4 to 10, or locally used equivalent
Standard 3	Pain is re-assessed 60 minutes after receiving the initial dose of analgesia	If patient receives analgesia in ED, then documented evidence of re-assessment is done within 60 minutes

Grade definition

F - Fundamental: This is the top priority for your ED to get right. It needs to be applied by all those who work and serve in the healthcare system. Behaviour at all levels and service provision need to be in accordance with at least these fundamental standards. No provider should provide any service that does not comply with these fundamental standards, in relation to which there should be zero tolerance of breaches.

D - Developmental: This is the second priority for your ED. It is a requirement over and above the fundamental standard.

A - Aspirational: This is the third priority for your ED. Setting longer term goals.

Data to be collected

Patient details

Q1.1	Reference (do not enter identifiable data)	
Q1.2	Date and time of arrival or triage, whichever is earlier *(Use 24-hour clock e.g. 11.23pm = 23:23)*	dd/mm/yyyy HH:MM
Q1.3	Age of patient	
Q1.4	Ethnic category	• White British • White Irish • Any other White background • White and Black Caribbean • White and Black African • White and Asian • Any other mixed background • Indian • Pakistani • Bangladeshi • Any other Asian background • Caribbean • African • Any other Black background • Chinese • Any other ethnic group Not stated e.g. unwilling to state

		Yes (select option where applicable)	Time (leave blank if unknown)	Date (for use if different to date of admission)	No (select option where applicable)
Q2.1	Was pain assessed on arrival (within 15 mins?)	• Moderate • Severe	HH:MM	dd/mm/yyyy	
Q2.2	Was a validated pain assessment tool used? If yes, please specify what tool was used.	• Yes			• No
Q2.3	Was analgesia **administered** in the ED?	• Fascia Illicia Block • Femoral nerve block • Ibuprofen (NSAIDs) • Opiate (IV) • Opiate (oral) • Opiates (intranasal) • Paracetamol • Other (please specify): _____	HH:MM	dd/mm/yyyy	• No – was administered pre-hospital • Not accepted • No – the analgesia was contraindicated • No – another reason was recorded

Q2.4	Was pain re-assessed in the ED?	• No pain • Mild (1-3) • Moderate (4-6) • Severe (7-10)	HH:MM	dd/mm/yyyy	• Not recorded • Not able to re-assess pain or patient left ED
Q2.5	Was a second dose of analgesia administered in the ED?	• Yes	HH:MM	dd/mm/yyyy	• Not offered • Not accepted • No – but the reason was recorded • Not recorded
Q2.6	What analgesia was administered	• Fascia Illicia Block • Femoral nerve block • Ibuprofen (NSAIDs) • Opiate (IV) • Opiate (oral) • Opiates (intranasal) • Paracetamol • Other (please specify): _____			
Q2.7	Was analgesia in accordance with local guidelines?				• Yes, fully as per pain assessment & analgesic ladder • Yes, partially • No, it was not • No local guidelines exist
Q2.8	Was discharge analgesia advice given?				• Yes • No or not recorded

Notes
This section is for local use and will not be analysed by RCEM. Ensure you do not enter any identifiable data here.

Question and answer definitions

Term	Definition
Pre-hospital analgesia	If the patient took their own analgesia pre-hospital, please tick yes.
Other analgesia	Include IM opiates here.
Pain assessment	Pain was assessed using a validated pain assessment or scoring tool (local, regional or national).
Discharge analgesia advice	Specific verbal or written advice on **analgesia** given.

Evidence base for standards

These standards have been checked for alignment with NICE Fractures (non-complex): assessment and management (NG38) 2016, RCEM Management of Pain in Children July 2017, and RCEM 2011 Pain in children standard.

Standard	Evidence
1. Pain is assessed immediately upon presentation at hospital	**RCEM Management of Pain in Children July 2017. Best Practice Guideline** Recognition and alleviation of pain should be a priority when treating ill and injured children. This process should start at the triage, be monitored during their time in the ED and finish with ensuring adequate analgesia at, and if appropriate, beyond discharge. Level 5 evidence. **NICE Fractures (non-complex): assessment and management (NG38) 2016** Assess pain regularly in people with fractures using a pain assessment scale suitable for the person's age, developmental stage and cognitive function.
2. Patients in moderate or severe pain (e.g. pain score 4 to 10) should receive appropriate analgesia within 30 minutes (or in accordance with local guidelines) unless there is a documented reason not to.	**RCEM Management of Pain in Children July 2017. Best Practice Guideline** The RCEM Quality in Emergency Care Committee (QEC) standard of analgesia for moderate & severe pain within 20 minutes of arrival in the ED should be applied to children in all Emergency Departments. **RCEM 2011 Pain in Children standard** Patients in severe pain (pain score 7 to 10) or moderate pain (pain score 4 to 6) receive appropriate analgesia, according to local guidelines or CEM pain guidelines, a. 50% within 20 mins of arrival b. 75% within 30min of arrival c. 100% within 60min of arrival.
3. Patients with severe or moderate pain should have documented evidence of re-evaluation and action within 60 minutes of receiving the first dose of analgesic.	**RCEM Management of Pain in Children July 2017. Best Practice Guideline** Patients with severe or moderate pain should have the effectiveness of analgesia re-evaluated within 60 minutes of the first dose of analgesia. Level 5 evidence. **NICE Fractures (non-complex): assessment and management (NG38) 2016** Assess pain regularly in people with fractures using a pain assessment scale suitable for the person's age, developmental stage and cognitive function. **RCEM 2011 Pain in Children standard** 90% of patients with severe pain should have documented evidence of re-evaluation and action within 60 minutes of receiving the first dose of analgesic.

References

1. Emergency Triage, 2nd Ed. BMJ Publishing Group, 2005.

2. Lee JS. Pain measurement: Understanding existing tools and their application in the emergency department, Emergency Medicine 2001; 13: 279–287.

3. McGrath PJ et al, CHEOPS: A behavioural scale for rating postoperative pain in children. Advances in Pain Research and Therapy. Ed. Fields, Raven Press 1985; 9: 293-297.

4. Medicines and Healthcare Products Regulatory Authority (UK) (MHRA). Codeine: restricted use as analgesic in children and adolescents after European safety review (accessed10th July 2013).

5. NICE. Analgesia mild to moderate pain 2015 (accessed 10th June 2017).

6. NICE Fractures (non-complex): Assessment and management 2016 (accessed 11th June 2017).

7. Petrack EM, Christopher NC, Kriwinsky J. Pain management in the emergency department: patterns of analgesic utilization. Pediatrics 1997; 99(5): 711-4.

8. Stahmer SA, Shofer FS, Marino A et al. Do Quantitative Changes in Pain Intensity Correlate with Pain Relief and Satisfaction? Academy of Emergency Medicine 2008; 5(9): 851-7.

9. The College of Emergency Medicine: Management of pain in children. Best Practice Guideline 2013; 1-12.

10. The Royal College of Anaesthetists: Core standards for pain management services in the UK. Faculty of Pain Management 2015 (accessed 6th June 2017).

11. The Royal College of Emergency Medicine: Management of pain in children. Best Practice Guideline 2017; 1-11.

12. Todd KH, Sloan EP, Chen C et al. Survey of pain etiology, management practices and patient satisfaction in two urban emergency departments. CJEM 2002; 4(4): 252-6.

13. Wong-Baker Faces Pain Scale. Adapted from Whaley L, Wong DL. Nursing care of infants and children. 3rd ed. St Louis: The CV Mosby Company 1987.

Search Terms

The codes below can be used to help initially identify potential cases. This is not an exhaustive list; other search terms can be used but all potential patients should then be reviewed to check they meet the definitions & selection criteria before inclusion in the QIP.

The ECDS codes below relate to CDS V6-2-2 Type 011 - Emergency Care Data Set (ECDS) Enhanced Technical Output Specification v3.0.

QIP question	ECDS data item name	ECDS national code	National code definition	Notes
Q2. Date and time of arrival or triage – whichever is earlier	EMERGENCY CARE ARRIVAL DATE EMERGENCY CARE ARRIVAL TIME	an10 CCYY-MM-DD an8 HH:MM:SS	Date Time	
Q3. Age of patient	AGE AT CDS ACTIVITY DATE	N/A	N/A	
Q4. Ethnic category	ETHNIC CATEGORY	A B C D E F G H J K L M N P R S Z	White British White Irish Any other White background White and Black Caribbean White and Black African White and Asian Any other mixed background Indian Pakistani Bangladeshi Any other Asian background Caribbean African Any other Black background Chinese Any other ethnic group Not stated e.g. unwilling to state	

		99		Not known e.g. unconscious		
Q5. Was pain assessed on arrival (within 15 mins)?	Does not directly map to an ECDS code					
Q6. Was a validated pain assessment tool used?	Does not directly map to an ECDS code					
Q7. Was analgesia administered in the ED?	1135110000 1135210000 1135410000 1135610000		Analgesia Analgesia Analgesia Analgesia		Anaesthesia: local anaesthetic Anaesthesia: entonox Anaesthesia: regional block Anaesthesia: sedation monitored	Treatments field: Medication including date time stamp is in ECDS, so could get date/time for first medication
Q8. Was pain re-assessed in the ED?	Does not directly map to an ECDS code					
Q9. Was a second dose of analgesia administered in the ED?	1135110000 1135210000 1135410000 1135610000		Analgesia Analgesia Analgesia Analgesia		Anaesthesia: local anaesthetic Anaesthesia: entonox Anaesthesia: regional block Anaesthesia: sedation monitored	Treatments field: Medication including date time stamp is in ECDS, so could get date/time for first medication
Q11. Was analgesia in accordance with local guidelines?	Does not directly map to an ECDS code					

Appendix: Analysis plan for standards

This section explains how the RCEM team will be analysing your data. You are welcome to use this analysis plan to conduct local analysis if you wish. Analysis sample tells you which records will be included or excluded from the analysis. The analysis plan tells you how the RCEM team plan to graph the data and which records will meet or fail the standards.

STANDARD	Relevant questions	Analysis sample	Analysis plan – conditions for the standard to be met
[**1**] Pain is assessed immediately upon presentation at hospital	Q1.2 and Q2.1	All records	**Chart**: SPC **Title**: Standard 1: Pain is assessed immediately upon presentation at hospital **Analysis**: Q2.1 – Q1.2 < = 15 min (**met**) Q2.1 – Q1.2 > =15 min (**fail**)
[**2**] Patients in moderate or severe pain (e.g. pain score 4 to 10) should receive appropriate analgesia within 30 minutes (or in accordance with local guidelines) unless there is a documented reason not to	Q1.2, Q2.1, Q2.3	Q2.1 = Severe (7-10)	**Chart**: SPC **Title**: Standard 2: Administration of analgesia to patients in severe pain **Analysis**: Q2.3 = Yes AND Q2.3 – Q1.2 < = 20min (**A**) Or Q2.3 – Q1.2 < = 30min AND >20min (**D**) Or Q2.3 – Q1.2 < = 60min AND >30min (**F**)
[**3**] Patients with severe or moderate pain should have documented evidence of re-evaluation and action within 60 minutes of receiving the first dose of analgesic	Q1.2, Q2.1, Q2.3	Q2.1= Moderate (4-6)	**Chart**: SPC **Title**: Standard 3: Administration of analgesia to patients in moderate pain **Analysis**: Q2.1= Yes AND Q2.1 – Q1.2 <= 30min (**A**) **OR** Q2.1 – Q1.2 <= 60min AND >30min (**D**)