

The Care of Paediatric patients with Empyema and chest drain.

'Are we failing to get them up and out fast enough?'

Care Group/Specialty: Paediatric Respiratory

Patient Outcomes Lead: Gary Ruiz

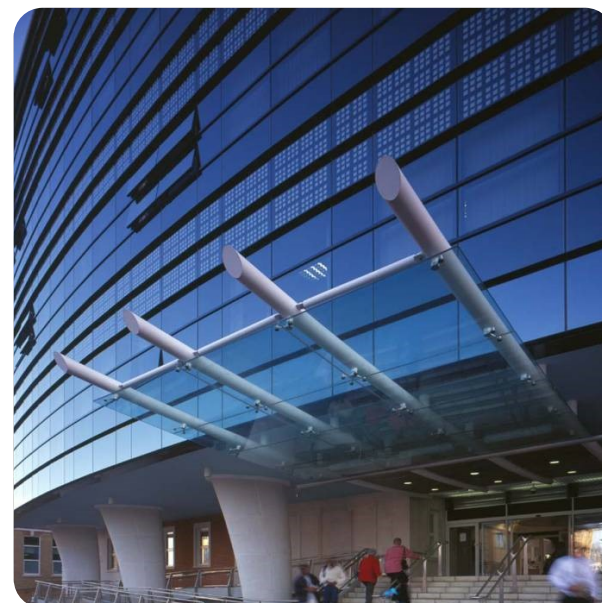
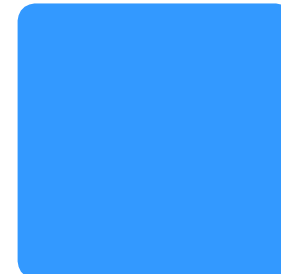
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KING'S HEALTH PARTNERS

Background:

- 4% of children are hospitalised with community acquired pneumonia in the UK
- An increase in the incidence of paediatric empyema requiring intervention was first reported in UK 1997
- Kings College Hospital has an average of 10-15 Empyema patients per year needing chest drains
- BTS guidelines for the management of pleural infection in children have been published and latest update is 2005 version

Aim:

- Are we ensuring that the care of empyema patients with chest drains follow recommendation from latest BTS guidelines
- Are we failing to get them up and out fast enough

Objectives:

- The objective of this audit is to compare King's current practice against BTS Guidelines for Management of Pleural infection in children
- Identify average length of admission in Kings
- Identify and implement actions required to comply with the guideline.
- Repeat audit after implementation and compare findings including length of admission

Audit standards: BTS guidelines for the management of pleural infection in children 2005

Audit criteria		Target (%)	Exceptions	Source of evidence
1.	Regular analgesia+antipyretics	100%	none	BTS guidelines 2005
2.	Early mobilisation	100%	none	BTS guidelines 2005
3.	Patients cared by trained staff in Empyema/chest drain	100%	none	BTS guidelines 2005
4.	Administration of intrapleural urokinase via drain recommended	100%	none	BTS guidelines 2005 Randomised trial of intrapleural urokinase in the treatment of childhood empyema, Thorax 2002, I M Balfour Lynn et al
5.	Average length of admission	100%	none	Randomised trial of intrapleural urokinase in the treatment of childhood empyema, Thorax 2002, I M Balfour Lynn et al

Sample:

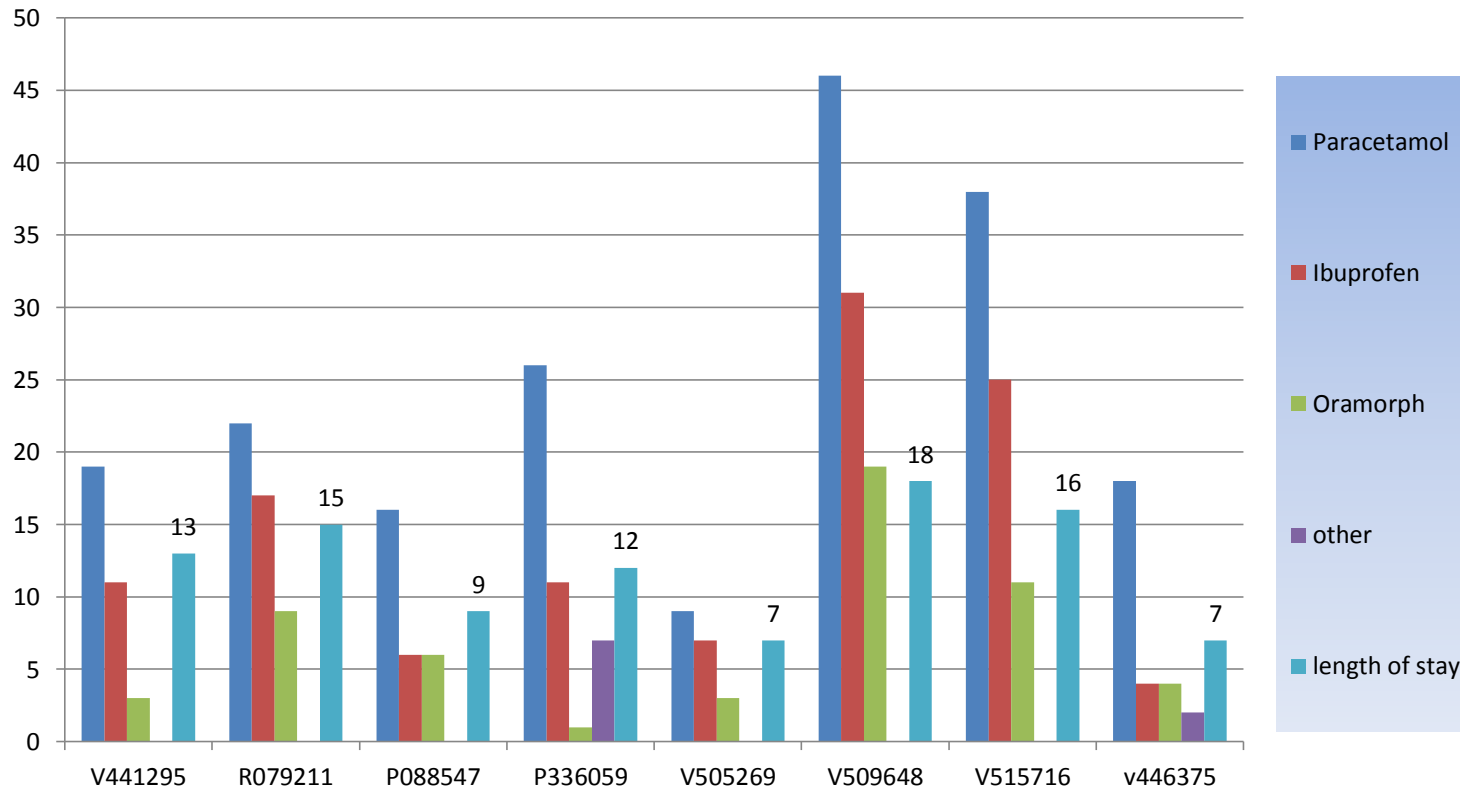
- Retrospective review of clinical data from 16 patients with non complicated Empyema needing chest drain insertion between January 2015 – December 2016.

Collection Method:

- Data for patients were collected by CNS Respiratory retrospectively from Kings Sunrise Electronic Patient Record.
- Microsoft Excel 2010 was used to document following: admission and discharge date, drug chart information from the day of chest drain insertion until discharge of the patient to assess number of doses for Paracetamol, Ibuprofen, Oramorph and other analgesia such as Lidocaine patch and use of intrapleural urokinase for each patient, comfort and pain score was noted with information on physiotherapist and play specialist input, possible oedema and evidence of early mobilisation.

Key Findings:

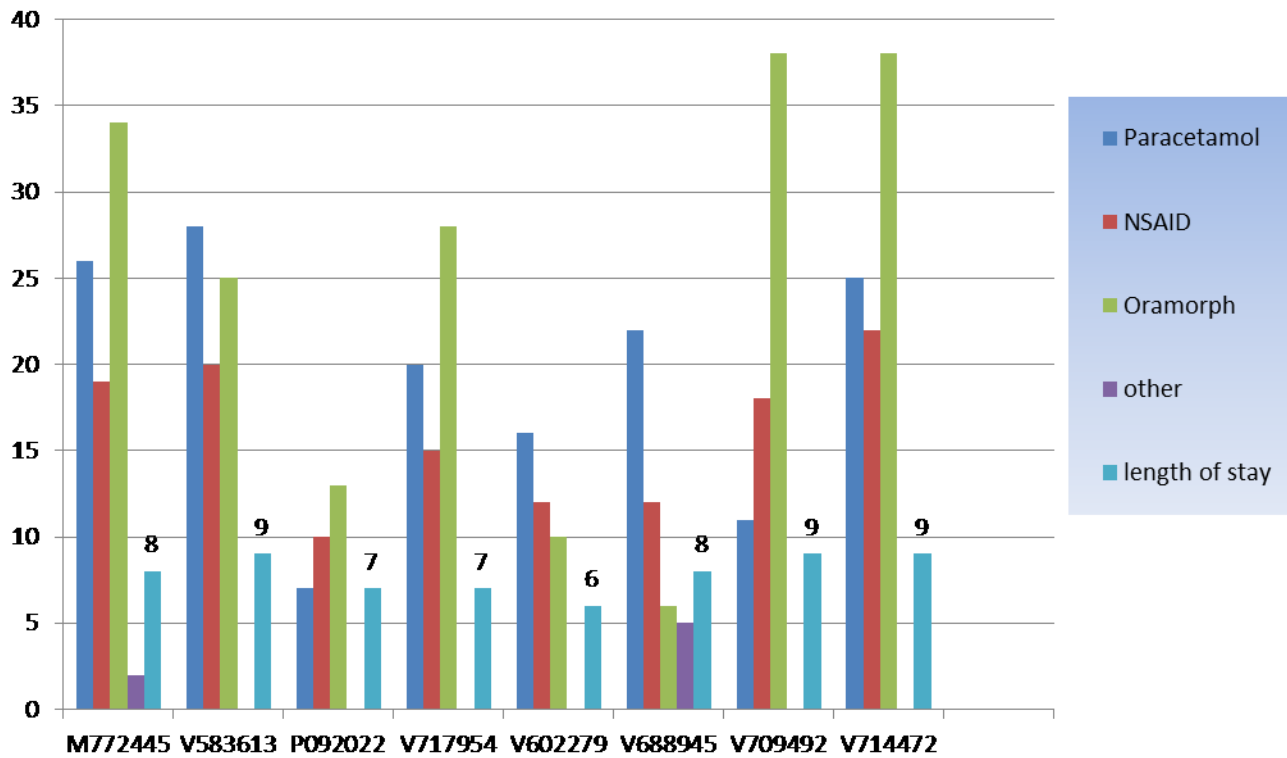
Data 2015: Analgesia given, length of stay



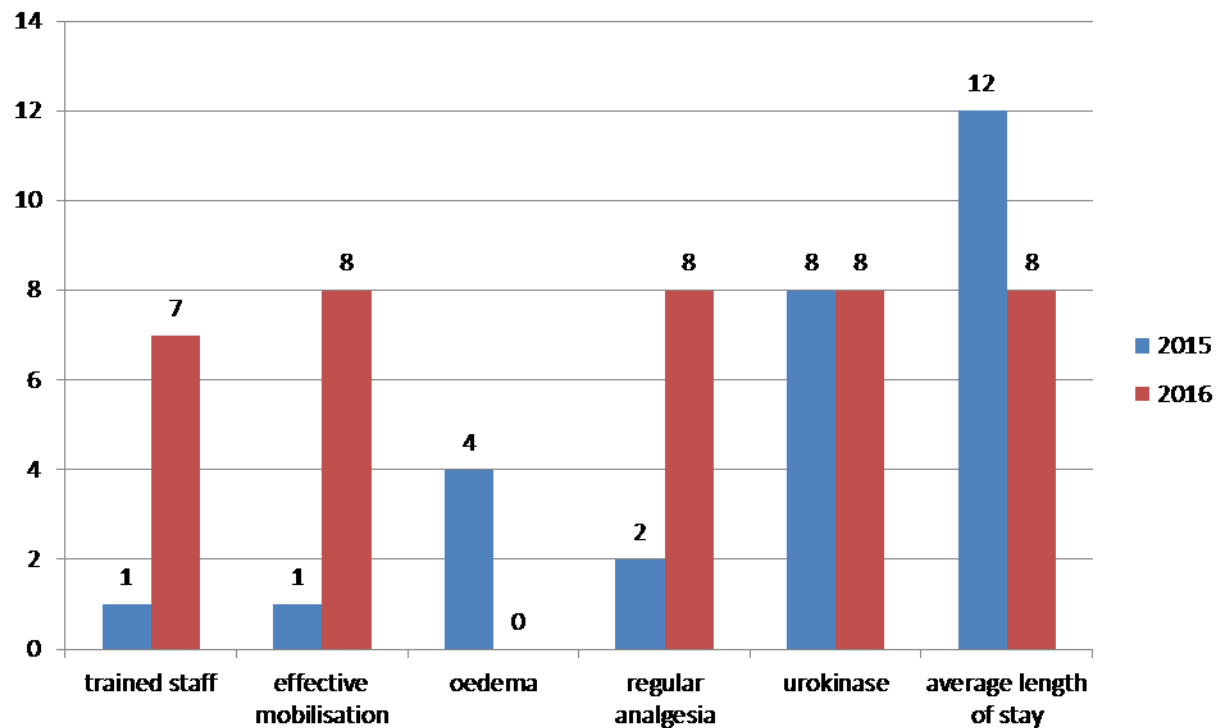
Recommendations

Recommendations from clinical audit project	Recommendation implementation stage	Action required	By when	By whom	Resource implications	Progress noted:
1. train all nursing staff ,play team and physiotherapist	<ul style="list-style-type: none"> Work in progress Recommendation met 	small group teaching sessions	05/2016	CNS Respiratory		certificate of attendance, database
1. Paediatric chest drain check list for all wards	recommendation met	standardised paediatric chest drain check list	01/2016	CNS Respiratory		use on all paediatric wards
1. Optimising analgesia	recommendation met	regular Paracetamol 6h, NSAID 8h,Oramorph 4h Informing prescribers of the audit implementation Working alongside with pain team and ward pharmacist	01/2016	prescribing consultant		patients drug chart reviewed daily
1. Encouragement of mobilisation from day 2 of chest drain insertion	recommendation met	informing patients, parents/carers Working alongside physiotherapist,play team	2016	CNS Respiratory, Physiotherapist		patient progress documented on EPR/ Sunrise clinical notes
1. Use of Intrapleural urokinase	recommendation met	prescription by consultant Staff nurse administration	2016	respiratory consultant		drug chart prescription length of chest drain recorded
1. Repeat audit as per cycle	Recommendation met	Same data collected	12/2016	CNS Respiratory		

Key Findings: Data 2016: Analgesia given, length of stay



Comparison data 2015 to 2016



Summary

- Findings of this audit shows that in 2015 the care of patients with empyema and chest drain on Paediatric wards did not fully followed the BTS guidelines
- In 2016 the repeat audit showed a significant improvement in the care of Empyema patients due to implementations followed by BTS guidelines
- The length of stay reduction by 35%
- Obstacles during this audit: lack of study days for staff, high turnover of ward staff
- Further improvement:
 1. parent/carer leaflet 'Care of Empyema children with chest drain ,what to expect.'
 2. Guidelines for the Management of Empyema patients with chest drain
Kings web