

# Heat Event 2017 - Poster Presentations

## Hull Education and Training

### PEG insertion training for Endoscopy Nurses using porcine models for simulation training.

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#### Method

A porcine stomach and oesophagus is placed inside a purpose built torso model to provide lifelike simulation training. The trainees had the opportunity to use the porcine tissues for injection and incision before performing the procedure. The procedure was performed by the nurses taking in turns to use the endoscope to place the PEG and also to perform the skin incision part of the procedure. The course not only allows trainees to place a PEG in a safe and controlled environment, but also gives them the opportunity to take a turn as the endoscopist. This gives the trainees a whole new perspective as often it is not part of their role. The procedure is also completed in real time using the same equipment as on patients.

#### Results

We were able to successfully perform PEG insertions on these simulation models. The pull through technique using endoscopes and the equipment worked very successfully. Additionally the trainees get a feel for the procedure like on a real patient, including some of the trouble shooting problems that occur. The course is attended by 6 candidates and with two tutors. The simulation model works extremely well and feedback was universally excellent. We have continued to provide this training to our own nurses and also external nurses attending the courses. We are planning to roll out a new course aimed at nurses and care staff working in the community setting with regard to management and complication of PEGs in the near future.

#### Discussion

A number of people have now been trained this way to place PEG tube and this training has been very successful. It allows a safe environment to learn a surgical procedure that can have serious consequences for patients. There is a considerable amount of theory that is also learned before hands on practice. This allows practice to be consolidated and gives a greater insight into the wider issues surrounding gastrostomy feeding. The day motivates trainees to place PEGs and they are keen to go back to practice to apply the skills they have learned. The feedback has always been very positive. It gives a unique way to learn a technical skill and provides an interactive way of learning that is tailored to the trainees needs.

Table 1. Feedback

JAG_GTA1 - PEG Insertion Course (May 23 2017)									
Evaluation of Course									
Please click on relevant level to show if the course fulfilled the learning objectives									
Code	Objective	Fully achieved Not achieved							
1. LO001:	List indications and contraindications for PEG insertion (including ethical considerations)	6 0							
2. LO002:	Identify different feeding devices and state two main features of each device	6 0							
3. LO003:	Insert a PEG tube on a pig model using sterile technique	6 0							
4. LO004:	Recognise possible causes for common PEG-related problems	6 0							
5. LO005:	Describe strategies for the prevention and management of minor PEG complications	6 0							

Hands on cases									
Number of patient cases in which you had hands-on involvement? Include all cases in which you participated (Number: Count)									
6									

Evaluation of Course									
Please click on relevant level to show self assessment of knowledge/practice									
	Time spent on this			Method and quality of delivery					
	Too little	Too much	About right	Below expectation	Met expectation	Above expectation	Not applicable		
6. 1:1 Training on patients	0	0	1	0	0	1	5		
7. Observing others practicing hands-on endoscopy	0	0	2	0	0	2	4		
8. Animal tissue model	0	0	6	0	1	5	0		
9. Simulators	0	0	6	0	1	5	0		
10. Theoretical component	0	0	6	0	1	5	0		

Overall Evaluation									
11. Overall, throughout the course, how much of your course time was spent learning effectively?									
Scale %	0	0	0	0	0	0	0	1	5

Overall Course Ratings									
Please indicate on the scale of 1-10 where you rate the following for this course									
	1 = Very disappointed	2	3	4	5	6	7	8	9 = 10 = Very pleased
12. Administration and communication	0	0	0	0	0	0	0	0	1 5
13. Environment/setting conducive to learning	0	0	0	0	0	0	0	0	1 5
14. Teaching materials and aids	0	0	0	0	0	0	0	0	1 5
15. Catering and refreshments	0	0	0	0	0	0	0	0	1 5
16. Would you recommend this course to a colleague?	Yes - 6								

Comments									
I think the course content was relevant and met my learning needs. The practical session were very good, was made to feel at ease and given the confidence while practising.									
absolutely fantastic day, probably the best course I have attended									
I thoroughly enjoyed the training day. All information was appropriate and as the correct level. It was excellent									
excellent day, lots to take back to practice, very enjoyable									
Good course									

### Immediate Discharge Summary in Cardiothoracics: Improving Communication with Primary Care patients discharged on warfarin or following valve replacement.

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#### Methods

Quality Improvement Project with retrospective and perspective data collection and analysis regarding Valve Replacement Details (Brand, Type, Size) and warfarin prescription (correctly noted, INR range, duration) in Immediate Discharge Summaries (IDS) produced at a busy tertiary centre Cardiothoracic Unit. Initial audit demonstrated errors in IDS. Immediate Discharge Summary design cycle analysed. Lack of education regarding necessary details highlighted. Team identified potential changes, which were introduced in a step-wise fashion with process measures noted following change implementation. Changes included: informal discussion with colleagues and dissemination of results; re-designing of introduction booklet and special sessions arranged during induction to cover omissions identified; departmental poster design and display.

#### Results

Twenty-two patients were identified at the beginning of the study period (August 2016). Review of IDS indicated that only 40.9% (9) and 27.3%(6) IDS included details regarding the brand and size of valve the patient received. Seventy-seven per cent of the IDS

correctly noted the type of valve implanted (biological/mechanical). Following interventions data was reviewed and results compared with  $\chi^2$  test ( $p=0.05$ ) review of data (including patients operated in February and March 2017), 95.5% of IDS correctly noted the type of valve (absolute increase: 18.3%,  $p=0.078$ ), with 72.2% correctly identifying brand and size (absolute increase: 31.3% ( $p=0.033$ ) and 44.9% respectively ( $p=0.026$ )). With regards to warfarin prescription initially prescription and INR range was correctly displayed in 54.5% of IDS, and duration was noted in 45.5%; interventions were successful in accomplishing 100% compliance ( $p=0.011$  and  $p=0.004$ ) with local standards in all three categories regarding warfarin.

## Discussion

Quality of discharge letters is fundamental in establishing good continuity of care both in primary and secondary settings. Standards are important in ensuring quality is unaffected. It was noted, through discussion with senior colleagues that problems have arisen due to poor quality in Immediate Discharge Summaries in patients receiving valve replacement or are discharged on warfarin (phone enquires by General Practitioners). This created further pressure in the already stretched time-schedule of consultant and registrar cardiothoracic surgeons, and the primary care practitioners. The team managed to address the issue via Quality Improvement Methodology, improved the quality of IDS, established a good audit trail, and aided in minimising disruptions between primary and secondary care. Focusing on education of incoming staff to departments can reduce mistakes and omissions in discharge summaries as displayed above. It also increases the efficiency and safety of care by providing all the required information to primary care practitioners. Such interventions are practical, easily applicable and of low cost. Consideration should be applied in whether systemic interventions throughout the Trust could fulfil similar results.

## References

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## The COMMANDS study: Improving community-based diagnosis and management of non-alcoholic fatty liver disease in east Yorkshire

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## Background and Aims

Most non-alcoholic fatty liver disease (NAFLD) is diagnosed after identification of abnormal liver function tests (LFT) in primary care (PC), with subsequent referral to secondary care (SC) for investigation.<sup>1</sup> There is no standardised management pathway for abnormal LFT in PC. Following diagnosis of suspected NAFLD in PC the decision of whether to refer to hepatology or continue management in the community is at the discretion of the GP. Practice varies extensively resulting in unnecessary referrals to SC and suboptimal identification of patients who do require SC management. The Community-based Management of Non-alcoholic fatty liver Disease Study (COMMANDS) seeks to address this variation with 2 key aims:

1. Assess the impact of an e-consult Integrated Care Pathway (e-ICP) to guide PC diagnosis of suspected NAFLD.
2. Prospectively describe a large cohort of people with NAFLD including long-term outcomes and identification of markers of progression.

## Methods

The study comprises 3 stages:

1. Pilot phase in 8 participating PC centres to establish current practice, local NAFLD prevalence and test early ICP versions.
2. Randomised controlled trial (RCT) recruiting 300 patients presenting to PC with suspected NAFLD into e-ICP or standard of care (SOC) pathway (Fig 1).
3. Prospective observational cohort following all recruits over 5 years to track clinical outcomes (stable vs. progressive disease) and factors associated with disease progression, including testing of baseline and interval samples for existing/emerging biomarkers.

## Results

In the pilot study, 644 patients with abnormal ALT results were screened in 8 GP practices. Of these, 162 met criteria for further analysis (ALT 2 x upper limit of normal [ULN] or 2 readings > 70 IU/mL over 6 months). Following biomarker-based risk stratification, 85 % ( $n=138$ ) of the cohort were deemed suitable for SC referral. However, just 25 (15.4%) had a secure NAFLD

diagnosis made due to a lack of exclusion of other causes of raised ALT, e.g. viral hepatitis or autoimmune disease. Analysis and PC feedback revealed that although the ICP listed all required investigations prior to diagnosing NAFLD, the paper based format did not allow gatekeeping at key points in the pathway. The ICP was therefore redesigned to ensure a robust diagnosis of NAFLD was made prior to RCT entry utilising an electronic version (e-ICP) that prevents progression through the pathway in the absence of key results (e.g. viral serology). Following diagnosis, additional referral advice and guidance was incorporated using NAFLD fibrosis score-based risk stratification and an option for virtual clinic (e-consult) review by a hepatologist where there is doubt surrounding need for specialist follow-up. RCT recruitment is currently ongoing, with data collection measuring the impact of the e-ICP and access to the e-consult clinic on correct NAFLD diagnosis, secondary care referral rates and clinical outcomes. Virtual clinic review has prevented several unnecessary SC referrals, and is now being rolled out across the wider hepatology service.

### Conclusions

Significant gaps in PC investigation of abnormal LFT prevented GPs from making a secure NAFLD diagnosis, thereby impacting ability to risk stratify patients, plan ongoing management and determine requirement for SC referral. A novel care pathway developed in response to the pilot study and feedback from GPs is now being tested within an RCT to establish if the e-ICP improves diagnosis, management and timely referral of patients with NAFLD. Early data from the RCT has shown improvements in clinical practice in the e-ICP arm compared to standard of care. Long term follow up of the cohort will improve understanding of disease progression in the local population.

Figure 1. Flow diagram for COMMANDS study



### References

- Vernon G, Baranova A, Younossi ZM. [Systematic review: the epidemiology and natural history of non-alcoholic fatty liver disease and non-alcoholic steatohepatitis in adults](#). *Aliment Pharmacol Ther* 2011;34:274–285.

### Improving the Safety of Emergency Paediatric Anaesthesia in the Resuscitation Room

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Emergency Anaesthesia outside of theatre is recognised to carry a higher risk of complications and death, compared to the relatively controlled environment of an anaesthetic room. Additional challenges posed in the paediatric population include; low exposure to children requiring advanced airway management, staff less familiar with equipment and drugs, presentation out of hours, the need to size equipment based upon age/weight and the psychological stressors of caring for acutely sick children.

NAP 4 recommends that preparedness, planning, communication, situation awareness and knowledge of when to stop or change plans, is crucial in high quality paediatric airway management. One recommendation was that a checklist should be used for all emergency department intubations. Following the successful implementation of an adult 'Emergency Department Rapid Sequence Induction Shadowboard-Checklist', a paediatric specific version was developed to include drugs and an airway sizing chart, which serve as an aide memoire for the intubating team. The shadowboard serves as a "kit dump" with missing equipment being easily identified and the final item on the checklist is a vocalised plan in the event of difficult laryngoscopy.

The current version is being piloted with quantitative and qualitative analysis. It is printed on "Never Tear (Xerox)" which is a water resistant printable media in white polyester which adheres to the Infection Control Policy. Figure 1. Emergency anaesthesia tool showing drug aide memoire, shadowboard/checklist and airway sizing chart (left to right)





## A retrospective audit of high-potency vitamin D replacement in patients with vitamin D deficiency or insufficiency in Kingston Health Hull

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### Method

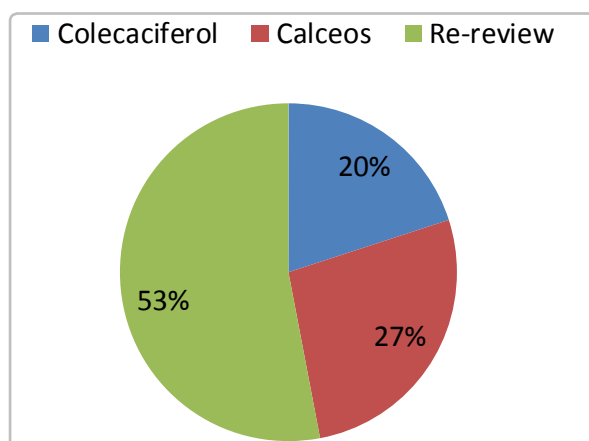
A retrospective audit of all patients older than 18 commenced on colecalciferol for low vitamin D between 1st June 2016 and 30th November 2016. A notes based audit utilising system 1. Patients who had been prescribed colecalciferol 800IU between June and November 2016 were identified. Those whose first prescription of colecalciferol was dated before 01/06/2016 were excluded. Patients who had been commenced on colecalciferol in secondary care or at another practice were excluded. Once inappropriate patients were excluded, the remaining sample were audited against the Hull and East Yorkshire Prescribing Committee (HERPC) standards.<sup>1</sup>

Hull and East Riding Prescribing Committee (2014) Clinical Guideline on Replacement with High-Potency Vitamin D in patients with vitamin D insufficiency or deficiency. HERPC. <http://www.hey.nhs.uk/wp/wp-content/uploads/2016/03/vitaminD.pdf>

### Results

Initial sample of 72 patients was reduced to 40 following exclusion. There were 33 women and 7 men with a median age of 47. Biochemical profile was checked for 65% of patients prior to commencing vitamin D. Eleven patients had true vitamin D deficiency, 21 had insufficiency and 8 had suboptimal levels. HERPC guidelines suggested 73% of patients did not require replacement with colecalciferol. (see figure.1) Guidelines suggest all deficient patients should receive 4000IU of colecalciferol daily, however only 40% of patients did. Of the 11 patients who should have received 4000IU units 63.6% did. Treatment should be for 10 weeks, median treatment duration was 8. All patients should have their vitamin D levels rechecked following treatment, 35% did.

Figure 1. A pie chart to show the recommended treatment for vitamin D level



### Discussion

Multiple standards are not being achieved. This was found to be multifactorial. It was partially due to uncertainty in stratifying vitamin D results but also patient factors also had an effect. Some patients were purposefully not commenced on 4000IU daily, as the added tablet burden was deemed to be too great for them to cope with. Reasons for not following guidelines was not being documented in the care record. Recommendations were made to help improve the management of low vitamin D levels. Re-audit will be completed in Autumn 2017 to look for improvement.

### Acknowledgements

Thanks to Emma Gordon and Julie Bowles at Kingston Health Hull for their help with generating clinical reports to facilitate this work.

### References

1. Hull and East Riding Prescribing Committee (2014) Clinical Guideline on Replacement with High-Potency Vitamin D in patients with vitamin D insufficiency or deficiency. HERPC. <http://www.hey.nhs.uk/wp/wp-content/uploads/2016/03/vitaminD.pdf>

### Transition to major clinical years: a multi-institutional preparatory course run by junior doctors for first-year clinical students

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### Introduction

A multi-centre medical school preparatory course was designed to address preclinical students' reported learning needs during their transition from lecture- and classroom-based learning to learning from clinical rotations. The main objectives identified from focused groups of the target audience were:

1. To provide high-quality teaching of basic clinical examinations and data interpretation;
2. To teach students strategies to utilise time on the wards most efficiently;
3. To give career advice through a comprehensive workshop covering research, audit, teaching, and assessments.

### Methods

The course was implemented serially at two sites in the UK; Northwick Park Hospital in London (28th/29th November 2015) and Hull Royal Infirmary (22nd/23rd October 2016). Local medical education departments were actively involved in the conception and implementation of each course, to tailor the course to

these concerns as they share recent experiences and are often familiar with current assessment processes and practice<sup>6</sup>, correlating with our results. Multiple courses employ junior doctors to teach final-year medical students, but few, if any, such arrangements exist for clinical students in their first clinical year. Our results suggest junior doctors are regarded as highly credible tutors for medical students when supported by local institutes and quality assurance mechanisms. Junior doctors can be valuable in preparing first-year clinical students for making optimal use of their clinical years and beyond.

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[illegible]

## Quality Improvement Project – Improving Efficiency of Initial Investigations and Treatment for GP admissions to AMU

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## Method

This Quality Improvement Project (QIP) aimed to reduce the amount of time between General Practice (GP) admissions arriving on the Acute Medical Unit (AMU) and having their initial investigations and treatment. The project took place over a period of 8 weeks. The daily Lorenzo admission list was reviewed to identify GP admissions, followed by a clinical notes review to identify the timing regarding patient admission to

the Acute Medical Unit, arrival of initial blood tests to laboratory, formal clerking to AMU and commencement of treatment. An initial two weeks of baseline data collection was followed by 3 interventions at two-week intervals, during which data collection continued. The interventions were as follows: i) verbal prompting to unit co-ordinators to highlight GP admissions on Cayder system and in Doctors handovers to encourage area-based doctors to assess GP admission fully on immediate arrival; ii) posters both in Bed Bureau and clinical areas reminding co-ordinators to highlight GP admissions, and encouraging doctors to continue the initial 'triage' of patients; iii) email to medical staff highlighting project and inviting suggestions for change, verbal prompting in nursing handovers for nurses to highlight GP admissions.

## Results

Over this QIP period there were 390 GP admissions; of these 271 case notes (69.5%) were reviewed. At baseline, average waiting time of GP admissions for clerking was 02:22 hours, bloods arriving in laboratory at 03:34 hours, and time to initial treatment was 05:52 hours. The average times were statistically compared using paired t-test. After Intervention Three, the average time to be clerked was reduced by 19 minutes ( $p=0.092$ ). Overall mean time for bloods to arrive in the laboratory was reduced by 78 minutes ( $p=0.0023$ ). The overall mean time for commencement of initial treatment was reduced by 178 minutes ( $p=0.007$ ).

## Discussion

Admissions from GP represent a significant number of patients presenting to the Acute Admissions Unit (AMU). Unlike patients presenting from the Emergency Department, these patients are not admitted with basic investigations already performed, or initial treatment commenced. It has been noted that such patients from GP seem to wait significantly longer for initial investigations and initiation of treatment. This can have a negative impact on patient outcomes, and the difficulty in providing safe and effective care for GP patients in the AMU was highlighted in the Care Quality Commission Scheduled Report for Hull Royal Infirmary, published in May 2014.<sup>1</sup> This Quality Improvement Project was successful in significantly improving the average time taken for initial investigations and treatment to be commenced in patients arriving on the Acute Medical Unit from General Practice. We believe these results reflect a positive change in attitude towards GP admissions onto the Unit, and it can be expected that a reduction in average waiting time for initial treatment will be of positive benefit to patient outcomes.

## References

1. Hull and East Yorkshire NHS Trust Hull Royal Infirmary, Quality Report; Care Quality Commission; 7/5/2014; page 8.

## Electronic E-VTE compliance QI project

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### Aim of the project

1. To improve the compliance of electronic VTE forms (on ward 50-renal ward) from 70% (baseline data in 3rd week of January) to 100% at the end of second week of March.
2. The project will be confined to ward 50 and not include other wards.

### Context

Standard

1. 100% of patients admitted to renal ward must have thromboprophylaxis after assessment of risk factors.
2. All patients must have E-VTE forms filled in on Lorenzo system.

### Methodology and Sampling

1. Which patients will be included?
  - All patients on ward 50
2. Sampling method?
  - data collection every morning
  - (Data collection will be done over the weekdays- Monday to Friday)
3. Exception
  - Data collection is only for patients admitted to ward 50 (renal ward) and does not involve other wards.

### Why is the project important?

1. Electronic VTE compliance—small task but most juniors are not aware of the task after admitting patient on the ward.
2. 100 % achievement of E-VTE will lead to better patient care with prevention of VTE (which is also the goal of HEY trust regarding VTE assessment)
3. To explore the reasons behind non-compliance with VTE on Lorenzo (to get to know why, to sort out the problems of difficulties if there is any and then to apply the results of the project in other wards and later involving the whole hospital)

### What will be changed and how will this change be implemented?

To increase the compliance of the E-VTE, the following will be done.

1. Presenting in weekly teaching session about the baseline data of compliance so that everybody is aware.
2. Putting up posters in the offices (both nurses and doctors office)
3. Sending email to all medical staff on ward 50 to notify about the project

**\*\*Changes and improvement will need to be implemented in Renal ward (ward 50) in Hull Royal Infirmary**

## Outcome measures

1. All the processes are essential to achieve the required goal of 100% E-VTE compliance.
2. There are 3 phases involved, before filling in VTE form, Looking for E-VTE form on the Lorenzo system and filling in and submitting E-VTE form .
3. So, there are a few difficulties or barrier that need to be addressed to achieve the goal. ( all those issues will be addressed during the project )
4. Data collection will be done after every change to see whether E-VTE compliance is improved or not.
5. If there is no improvement or not achieving the goal, new changes will be introduced to meet the required goal.
6. Outcome measure will be percentage of E-VTE compliance in ward 50.
7. Baseline data will include all E-VTE forms in first week of January 2017.
8. All the data and information will be anonymous and will be recored in the simple excel sheet.

## Process measures

Process mapping to understand where to improve

- 1st step- New patient Hospital admission (Action required to facilitate E-VTE compliance)
- 2nd step-Before filling VTE form Assessment of VTE status (Awareness of E-VTE form to be completed, Awareness of importance of VTE)
- 3rd step-Looking for E-VTE form on Lorenzo system (Showing Junior doctors to look for E-VTE form in Document session of Lorenzo)
- 4th step - Filling in E-VTE form (To be followed by submission to the Lorenzo system)

## Process measures

1. Notifying junior doctors and nursing staff about the importance of VTE.
2. Presenting the results of basic data collection on ward 50.
3. Make changes in the process ( posters, small talks ).
4. Recollection of data again to see whether there is any change.

## Balancing measures

1. Since the changes to improve the results are done within short period, there is a risk that the form will be completed within short period after patient's admission
2. Any changes after consultant ward round should be reviewed and updated.
3. Notification will be done to the juniors for that matter (for review after 24hrs)
4. Educating every junior doctor on the ward so that each of them is aware of the duty ( to avoid overburdening enthusiastic junior doctor who probably will do all

E-VTE forms everyday )

5. Reviewing whether all E-VTE forms are correctly submitted.

## Results

PDSA cycles, A run chart of improvement measure(s), A summary of any difference(s) made.

Comment on results

Project cycle

P- Plan - for data collection and identifying patients

D- Do – Data collection

S- Study – Assessing the collected data

A- Act – Thinking about the ways to improve

## Results and Findings

Cycle 1 - 70% of patients have E-VTE forms

Cycle 2 - 90% of patients have E-VTE forms

Cycle 3 – 100% of patients have E-VTE forms

## What was involved in PDSA cycle ?

Cycle 1 – initial data collection phase

Cycle 2 – Notifications put on the wall of the ward office

Cycle 3 - Notification of junior doctors, about the guidelines, where to look for E-VTE forms on the Lorenzo system, and sending emails.

## Keys to success, Barriers and Lessons Learned

Major keys to your projects success

1. Notifications of junior doctors and nursing staff about the importance of electronic VTE compliance.
2. Showing junior doctors on the ward where to find E-VTE form on Lorenzo.
3. Putting posters on the wall of the ward office.

## Barriers to your projects success

1. Not knowing that E-VTE form has to be completed.
2. Not knowing where to find E-VTE form on Lorenzo

Lessons learned to date about the changes you have tested

- Importance of good team work
- Always easy to start from the small things for QI project rather than going for the big ones
- Importance of support of senior .
- It is always good to have good relationship with nursing staff on the ward.

## Next steps

What are the next steps for your quality improvement project?

1. Posters and reminder will be put up in the ward.
2. The ward manager ( sister in charge ) will notify the new junior doctors to be compliant with E-VTE forms.
3. Importance of submitting the forms will be addressed in initial induction meeting to all junior doctors.



## Incidence of perforated appendicitis in Children under five years of age: A review

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### Aim

- 1.To review the incidence of appendix perforation in children five years of age and below.
- 2.To see if any delays in presentation to diagnosis and why
- 3.To compare the presence of perforation with duration of symptoms

### Method

- 1.Number of appendicectomies done within selected timeframe obtained from hospital's theatre database.
- 2.Retrospective review of clinical records of patients with acute appendicitis done.
- 3.Operative and histological evidence of perforation analysed and compared with duration of symptoms.

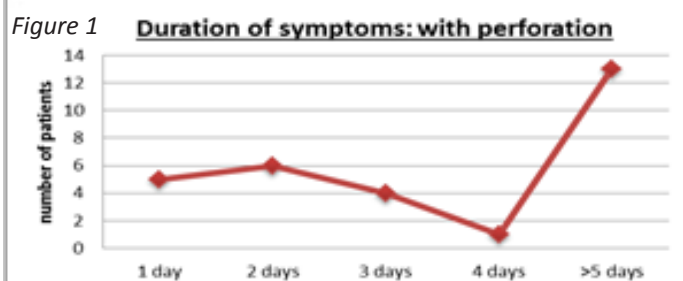
### Results

**Most common associated symptom:** diarrhoea and vomiting (Second commonest: URTIs/ viral type illnesses)

**Duration of symptoms:** ~ Twenty hours to eleven days

**Perforations:** ~ 71% (29 of 41 patients)

**Symptoms vs perforation:** ~45% of those with perforation had symptoms longer than 5 days (figure-1)



**Imaging:** ~90% were reported as positive for appendicitis on ultrasound and correlated with intraoperative findings.

**Inflammatory markers:** Generally raised but no specific correlation between very high levels and an increased rate of perforation and/or longer duration of symptoms.

### Conclusion/recommendations

- 1.Have a high index of suspicion in children five years old and below with abdominal pain associated with non-specific symptoms such as gastroenteritis and/or viral type illnesses
- 2.Rise in inflammatory markers (e.g. white cell count and CRP) may not specifically indicate a perforation but are a useful aid towards diagnosis of appendicitis.
- 3.Imaging such as ultrasound can be very useful in making a positive diagnosis of appendicitis in cases where clinical evidence is not clear cut.

- 4.Education of related specialties i.e. A&E, GPs, medical team regarding having a high index of suspicion in the younger child, the necessity of serial examination and safety netting (e.g. if not improving, return for review).

### References

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### Paediatric Meningitis

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Antimicrobial Stewardship is a concept promoting the appropriate use of antimicrobials-which encompasses antibiotics, antivirals and antifungal treatments.

It is fundamental because when applied, it can reduce instances of multi-drug resistance, microbial resistance, and thereby improve patient outcomes as a result.

NICE Clinical Guidance (CG61 2014)<sup>1</sup> states patients should be prescribed antibiotics in accordance with antibiotic formularies. The Department of Health Best Practice Guidance (2011 + 2015) on Antimicrobial Stewardship (Start SMART then Focus)<sup>2</sup> was developed to help demonstrate compliance with Criterion 9 of the Health and Social Care Act 2008: Code of Practice, on prevention and control of infections and related guidance. It recommends an annual audit of compliance to antimicrobial stewardship guidelines.

The focus of my audit was the Department of Paediatrics, Leeds General Infirmary, and the topic was the antibiotic treatment of paediatric meningitis

The aims of the audit were as follows: Measure compliance to antimicrobial treatment guidelines within the Leeds Teaching Hospitals (LTH) Trust. Specifically, to:

- improve documentation of indication
- improve culture collection prior to commencement of antibiotics
- identifying cases where protocol has not been followed and ascertain why.

The methodology entailed the following:

- 1.Identification of ten cases where patients were receiving antibiotic treatment-only 8 were used due to availability. This was deemed (by the supervising consultant) a sufficient sample size for a departmental



audit

- 2.Completion of the audit toolkit fully for each case- where directed therapy is used, answering questions only with the options identified on the toolkit

The results demonstrated 100% compliance to:

- 1.Allergy Box completion
- 2.MRSA Screening and documentation
- 3.Compliance with guidelines for empirical antibiotics for choice, route, dose, frequency and recommended cultures sent
- 4.Review date and duration documentation
- 5.Directed therapy only- Acting upon culture results within 24 hours

However, for directed AND empirical therapy, only

6. 83% compliance with indication being recorded on drug charts for antibiotics

The recommended changes to be implemented were:

- 1.Remain vigilant in documenting indication on drug charts and aim always for 100% compliance with guidelines
- 2.To maintain 100% compliance with the remaining Trust guidance measures
- 3.Further research needed in the form of another audit, to ensure that the recommended changes were implemented and to complete the audit cycle

The importance of performing audits regularly is that it is a necessary mechanism of feedback provision. The wider implications of this are that departments commonly hold monthly meetings reflecting on their latest audit results and their recommendations. This is essential to organisations who strive not for good standards, but for excellent, and will accept nothing less than 100%. Audits achieve this through identifying areas for improvement, but also highlighting current practices that are done well and by re-enforcing a positive working environment that is so vital to the NHS.