pneumothorax was related to the block since there was not a no-block group. This factor needs to be explored before considering the possibility of a multi-center study.

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ePoster session 6 – Station 1

EP181 IMPLEMENTATION OF A CHEST INJURY PATHWAY IN THE EMERGENCY DEPARTMENT

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Background and Aims Rib fractures represent a substantial health burden. Chest injuries contribute to 25% of deaths after trauma and survivors can experience long standing consequences, such as reduced functional capabilities and loss of work. Over recent years there has been an increase in awareness of the importance of early identification, aggressive pain management and adequate safety-netting for these patients. Poor management leads to increase rates of morbidity and mortality. Aim: Development of an evidence based, multidisciplinary chest injury pathway for the management of patients presenting with rib injuries in the Emergency Department

Methods We used Plan Do study Act cycles as a framework for our quality improvement project. Patients' note presenting with torso trauma were reviewed from march to June 2021. Our five Specific, Measurable Actionable Realistic and Timely (SMART) measures were: analgesia on arrival, time to analgesia, fascial block performed, discharge leaflet given and compliance with the pathway.

Results Implementation of the pathway increased rates of documented analgesia received from 39% to 70%. The number of regional blocks performed went from 0% to 60% and the number of patients receiving discharge advice went from 7% to 70%. The use of the pathway by doctor and nurses was 63%.

Conclusions This quality improvement project involved the development of a multidisciplinary pathway for patients presenting to the Emergency Department with rib fractures in order to drive a change from previous practice. The quality of care provided to patients attending with rib fractures showed improvement with increases in analgesia received, blocks performed, and discharge advice given.

EP182 REDUCING LOCAL ANAESTHETIC CATHETER DISPLACEMENTS: A BENCH TOP STUDY OF OPTIMUM MEANS OF CATHETER FIXATION

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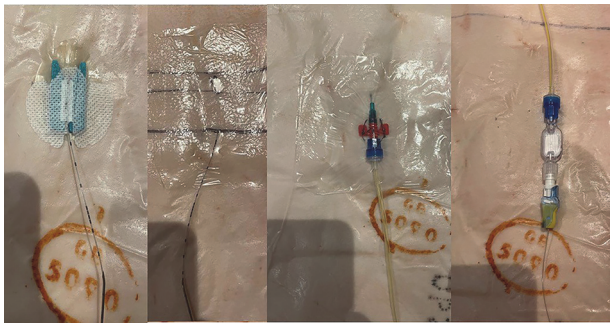
Background and Aims Local anaesthesia (LA) nerve infusions are increasingly used in our institution for rib fracture analgesia; they provide not only excellent analgesia but reduce morbidity, mortality and improve economic outcomes [1]. Data from a local audit demonstrated 33% of rib fracture LA infusions were prematurely removed due to accidental disconnection. Currently there is no consensus on the optimum method of securing LA catheters in place [2]. Accordingly, we aimed to reduce rates of catheter disconnection through a benchtop experiment to determine the optimal LA catheter fixation method.

Methods We used a porcine abdominal wall model (figure 1) to determine the force required to displace catheters secured using seven methods (table 1). We used our in-service wingless catheter-through-needle system (Pajunk), except when examining suturing strength, where a Vygon arterial line with suturing wings was used. The force required to displace the catheter by 1cm from the skin was measured. Each method was repeated 5 times. Data was analysed using parametric tests.

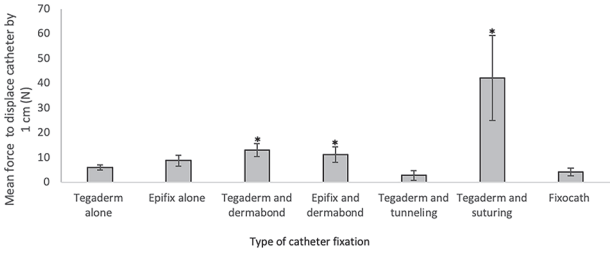
Results Catheters secured using Tegaderm and Dermabond (13.04 N, p=0.0004), Epifix and Dermabond (11.18 N, p=0.007) and Tegaderm and suturing (42.18 N, p=0.001) required significantly more force to displace than those using Tegaderm alone (5.94 N)(figure 2).

Abstract EP182 Table 1 A table demonstrating different methods used to secure local anaesthetic catheters in situ, using a porcine abdominal wall model

Device type	Name
Transparent film dressing only	Tegaderm
Film dressing and polyacrylate glue	Tegaderm + Dermabond
Film dressing with catheter tunnelling	Tegaderm+ tunnelling
Film dressing and catheter suturing	Tegaderm + suture (Softsilk, 2-0)
Epidural catheter fixation device 1	Epifix
Fixation device 1 + glue	Epifix + Dermabond
Epidural catheter fixation device 2	Fixocath



Abstract EP182 Figure 1 Photographs depicting local anaesthetic catheter fixation methods, in situ, on a porcine abdominal wall model



Abstract EP182 Figure 2 A bar chart illustrating the mean force (newtons) required to displace local anaesthetic catheters secured on a porcine abdominal wall model using different methods of fixation. Error bars represent +/- 1 standard deviation. Statistical significance was analysed with ANOVA and post hoc t-tests (*P<0.01)