

Our hospital is a trauma unit in North East London. We developed a standard operating procedure and training to provide SA and ESP blocks for our patients with rib fractures.

Our aim was to audit the effectiveness of these blocks in patients with rib fractures.

**Methods** Patients presenting with rib fractures (between May and December 2021) were assessed pre and post regional block. Pain was evaluated at rest and on movement using the Visual Analogue Scale (VAS). Patients were also judged for their ability to cough and deep breathe.

**Results** 9 patients had regional blocks performed. 7 patients had a SA block (one with bilateral blocks) and 2 patients had an ESP block.

Mean VAS scores were significantly reduced following regional block from 6.1 to 1.3 at rest ( $p < 0.001$ ) and 8.6 to 4.8 on movement ( $p < 0.0001$ ). The number of patients able to deep breathe increased from 1 to 8 and the number of patients able to cough increased from 0 to 7 following regional block. No complications were observed in any patients.

**Conclusions** This audit data demonstrates that introducing a regional block service for rib fracture patients in a district general hospital is a potentially safe and effective method at reducing pain and improving pulmonary function.

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#### OPTIMISING LOCAL ANAESTHETIC ADMINISTRATION IN ERECTOR SPINAE PLANE CATHETERS FOR TRAUMATIC RIB FRACTURE: A QUALITY IMPROVEMENT INITIATIVE

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**Background and Aims** The erector spinae plane (ESP) block is safe and effective following traumatic rib fracture<sup>1</sup>. The optimal regimen for local anaesthetic (LA) administration remains unknown. At our institution patients receive either a continuous infusion of 0.125% bupivacaine (up to 10 ml/h, 20 ml boluses 6 hourly as required), or a patient controlled regional anaesthesia (PCRA) regimen (4 ml/h background rate, 30 ml boluses, lockout time 4h). We aimed to identify and standardise best practice.

**Methods** Following approval by local audit department, a retrospective case note review was performed between 1/6/21 to 30/11/21. Numerical rating pain score (0 = nil, 3 = severe) at rest and on movement, spirometry values, rescue oral opioid administration were assessed for the first 72h, and mean LA usage per day across the entire catheter duration. The impact of associated pulmonary injury on total catheter duration was also assessed.

**Results** 21 patient received ESP catheters. Mean catheter duration was 4.8 days (SD 1.6). The 12 patients with an associated pneumothorax, haemothorax or pulmonary contusion had a longer catheter duration (5.4 days, 95% CI 4.6 – 6.3) compared to those without (4.7 days, 95% CI 2.9 – 5.3), although this did not reach statistical significance ( $p = 0.06$ ). No significant difference was found in any of the parameters studied (table 1).

Abstract B69 Table 1

Parameter	Continuous	PCRA	p-value
N	9	12	
Age (y)	69.9 (16.0)	67.2 (10.8)	0.65
Weight (kg)	75.7 (15.1)	83.6 (22.6)	0.38
Rest pain (0 – 3)			
D1	1.1 (0.6)	1.2 (0.6)	0.39
D2	0.9 (0.7)	1.4 (0.7)	0.12
D3	0.9 (0.6)	1 (0.7)	0.42
Movement pain (0 – 3)			
D1	1.9 (0.6)	2.1 (0.6)	0.34
D2	1.8 (0.8)	2.1 (0.5)	0.51
D3	1.8 (0.6)	1.8 (0.9)	0.95
Worst pain (0 – 3)			
D1	2.3 (0.5)	3 (1)*	0.21
D2	2.4 (0.7)	2.3 (0.6)	0.30
D3	2 (0)*	2.2 (0.8)	0.76
Spirometry (ml)			
D1	1380 (1114)	1815 (1057)	0.47
D2	1420 (683)	1707 (881)	0.56
D3	1967 (1141)	2193 (1108)	0.72
Rescue opioid dose (oral morphine equivalents, mg)			
D1	16.1 (14.4)	20.2 (23.5)	0.33
D2	21.4 (27.6)	26.0 (25.0)	0.35
D3	15.5 (16.0)	13.4 (13.9)	0.38
Mean LA/d (ml 0.125% bupivacaine)	209.2 (46.9)	203.2 (31.2)	0.73

Table 1: Continuous LA infusion vs PCRA. All data normally distributed and presented as mean (SD) and compared with unpaired t-test, except where \* exists, when presented as median (IQR), compared with Mann-Whitney U test. Intention to treat analysis.

**Conclusions** Our local data demonstrates that both regimens provide equivalent analgesic and respiratory effect, without affecting LA consumption. This provides flexibility, allowing an individualised approach to managing these patients, taking in to account patient preference, ability to comply with a PCRA regimen, and local resources.

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#### THORACIC SURGERY PERFORMED WITH PARAVERTEBRAL BLOCK REGIONAL ANAESTHESIA ALONE IN HIGH RISK PATIENTS

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**Background and Aims** Thoracic surgery is traditionally performed under general anaesthesia. Increasing patient complexity with comorbidity and frailty requires consideration of detrimental impacts of general anaesthesia, and awareness of alternative approaches to enable surgery. Paravertebral block regional anaesthesia alone is an effective alternative to facilitate thoracic surgery. We present a case report from our series.

**Methods** We hypothesised thoracic surgery could be achieved for high risk frail, elderly, and comorbid patients with provision of paravertebral block regional anaesthesia alone. Our case description reflects the evolution of our approach to this high risk population in our dedicated thoracic surgical unit at Guy's Hospital, London, UK.

High risk patients underwent surgical thoracoscopy, diagnostic pleural tissue sampling, and evacuation of pleural effusion with placement of indwelling drains.

We developed a process to facilitate surgery with ultrasound guided paravertebral regional anaesthesia alone. The procedures were successfully completed with no requirements for supplementary analgesia, intravenous sedation, or induction of general anaesthesia.

**Results** High risk patients were able to undergo successful thoracic surgery with diagnostic and therapeutic intent facilitated by ultrasound guided regional anaesthesia paravertebral block alone. All thoracoscopic procedures were completed with successful diagnostic and therapeutic outcomes.

**Conclusions** Non intubated awake thoracic surgery techniques have developed in parallel with adoption of videothoroscopic surgical technology. Previous descriptions have utilised locoregional anaesthesia with either intercostal blocks or thoracic epidural anaesthesia, and intravenous sedation<sup>1,2</sup>. We present a case description of our technique for successful thoracoscopic procedures in high risk patients performed under paravertebral regional anaesthesia alone without intravenous sedation or general anaesthesia.

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### PENG BLOCK ASSOCIATED TO LATERAL CUTANEOUS FEMORAL NERVE AND OBTURATOR NERVE BLOCKS AS SOLE ANAESTHETIC TECHNIQUE FOR TRANSTROCHANTHERIC FEMURAL FRACTURE

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**Background and Aims** Hip has a complex innervation and therefore it is a challenge to anesthetize it solely with peripheral nerve blocks. There are just a few cases described in literature where PENG block was used with anaesthetic goals and, as far as we know, there is no description of the association of blocks here described.

**Methods** We describe a female 82 year old patient, 72kg, with previous systemic hypertension and heart failure NHYA III with a femur fracture for an intramedullary nail. After monitoring, the following ultrasound guided nerve blocks were performed: PENG block (20 mL 0.5% Ropivacaine), Lateral Cutaneous Femoral Nerve (5 mL 0.5% Ropivacaine) and Obturator nerves at subpectineus plane (15 mL 0.5% Ropivacaine). Additional light sedation was achieved with dexmedetomidine IV (0,5mcg/kg/h) and ketamine (0,5mg/kg).

**Results** Surgery underwent smoothly without the need of any other anaesthetic drugs, patient sedated in RASS -3.

In the following 24h after surgery, there was no pain complaints or need of opioids.

**Conclusions** The anterior capsule of the hip is innervated by the lumbar plexus and the posterior capsule by the sacral plexus. The lateral side of the thigh is innervated by the lateral femoral cutaneous nerve, also part of lumbar plexus. Studies showed that the nociceptors concentrate mainly on the anterior capsule, thus the lumbar plexus is the main responsible for hip anaesthesia.

In this particular case, it was chosen to focus on lumbar plexus blocks through blocks mentioned previously.

By choosing this technique, we aimed to avoid approaching neuroaxial techniques or general anaesthesia preventing haemodynamic changes.

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### INFREQUENT ANATOMICAL VARIATION OF INTERSCALENE BRACHIAL PLEXUS, IS IT A PRECURSOR TO BLOCK FAILURE?

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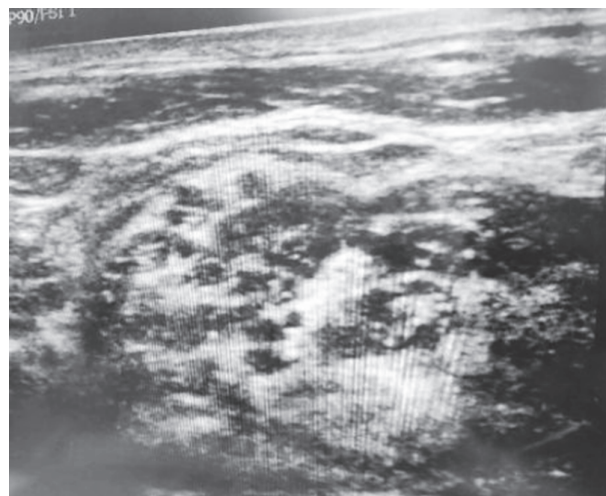
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**Background and Aims** Anatomical variation in the interscalene brachial plexus is not uncommon but can cause difficulty in identifying the structures even on ultrasound.<sup>1,2,3</sup>

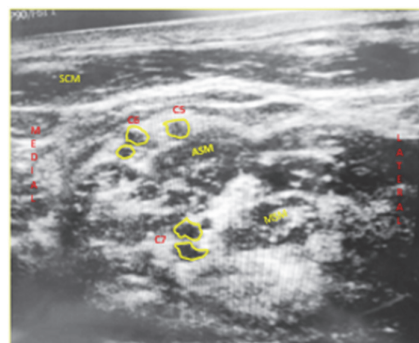
Here we present a case report of one such anatomical variation encountered while performing ultrasound guided interscalene brachial plexus block and how we overcame our challenges.

#### Methods

**CASE REPORT** A 58 yr old male who was pre-morbidly healthy was posted for phlois plating (orif # head of the humerus). Position proposed for surgery was supine. Decision was taken to give ultrasound (USG) guided interscalene brachial plexus block (ISB). On ultrasound scanning of the interscalene area the plexus was seen as the C5 C6 roots on the surface of the anterior scalene muscle whereas the C7 in the interscalene groove (image as below)



Abstract B72 Figure 1



Abstract B72 Figure 2

The challenges in front of us were: 1.100% phrenic nerve palsy eminent 2.block failure