Methods The Trauma Anaesthesia Group, Pain Service and Information Technology department in our hospital collaborated to develop an electronic referral pathway capturing relevant patient data in a system that can feedback patient risk stratification and recommended analgesia.

Results We have developed an electronic tool within the clinical record system that captures patient demographics, vital signs and level of oxygen therapy. Automatic calculation of the chest trauma STUMBL score (1) allows risk stratification, identifying those at high risk of morbidity. In-built prompts guide referring clinicians to discuss high risk patients with Critical Care and recommend optimal multi-modal analgesia so that this can be started from hospital admission. Finally, the referral pathway acts as a portal to the Trauma Anaesthesia Group to enable efficient screening and early intervention with regional anaesthetic techniques, where indicated.

Conclusions Development of an electronic referral pathway will be used for early identification and risk stratification of patients with chest trauma, including evaluation for suitability of regional anaesthetic techniques.

B170 ESTABLISHING CONSENSUS TO IMPROVE ACCESS TO REGIONAL ANAESTHESIA FOR RIB FRACTURE PATIENTS USING DELPHI METHODOLOGY

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Background and Aims In 2017, our hospital implemented a dedicated multi-disciplinary chest trauma pathway, which recommends regional anaesthesia techniques for patients at high risks of complications (1). The number of patients identified with rib fractures on admission has increased resulting in referral for regional anaesthesia in 176 patients in 2021 alone. This has increased the workload of the on-call anaesthesia service and can result in delays. We used Delphi methodology to inform improvements within this service.

Methods Using Delphi methodology, an expert panel of consultant anaesthetists were invited to provide possible solutions to improve access to regional anaesthesia and patient flow in emergency theatres. Responses were then presented to the panel to score their agreement with each solution using a Likert scale from 1 (completely disagree) to 5 (completely agree). Solutions with a mean of >4.0, and standard deviation (SD) <1.0 were considered to have reached consensus. Solutions that failed to gain consensus were returned to the panel for a further round of scoring, with statistics from the previous round revealed. Anonymity was assured.

Results 22 consultants were invited to participate, and responses were summarised into 14 solutions (table 1). We received 13 responses in Round 1 and 8 in Round 2 of the Delphi process. In total, 5 solutions reached consensus (graph 1).

Conclusions Delphi methodology allows an equal voice, anonymity, and the consideration of a wide range of opinions and solutions. Limitations include a low response rate and inadvertent introduction of bias. However, gaining expert consensus is highly beneficial in informing service improvement.

B171 THE EFFECT OF MUSIC AND NOISE CANCELLATION ON INTRAOPERATIVE ANXIETY USING STAI-6 SCORE IN PATIENTS UNDERGOING LOWER LIMB SURGERIES UNDER SPINAL ANAESTHESIA

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Background and Aims The purpose was to investigate the effect of music and noise cancellation on intraoperative anxiety in patients undergoing spinal anaesthesia for lower limb orthopedic surgeries. The objectives were to determine the
difference in change in anxiety score (STAI-6), sedation score (Ramsay Sedation Score), hemodynamic variables from baseline to the end of the surgery, mean communication difficulty (Likert’s scale) and mean satisfaction score (VAS-S).

Methods After Ethical Committee approval, patients satisfying inclusion criteria were randomized into 1 of the three groups- Group A- Headphones attached, music was played, Group B- headphones attached, no music was played, Group C- No headphones attached or music played. Baseline hemodynamic scores and anxiety variables were noted. Hemodynamic variables were also noted throughout the procedure till the end of the surgery. STAI-6, VAS-S, Likert-5 point scores and Ramsay Sedation Scores noted at the procedure end.

Results SATI-6- Significant reduction in anxiety in groups A & B vs C .

VAS-S- Group B patients had significantly more satisfaction compared to Groups A & C

Hemodynamic Variables- Significant difference in the groups mean SBP was compared. No significant difference between the 3 groups when mean DBP, MAP, SpO2 were compared.

Ramsay Sedation Score- Significant difference when RSS was compared between Groups A vs C and B vs C.

Likert Communication difficulty Score- Significant difference was seen in groups A & B when compared to Group C regarding Communication difficulty.

Conclusions Music and active noise cancellation effectively reduce anxiety, lower the systolic BP, improved sedation scores but no effect on other hemodynamic parameters.

**B172** A DEDICATED CHEST TRAUMA PATHWAY INCREASES ACCESS TO REGIONAL ANAESTHESIA IN THOSE WITH HIGH CHEST TRAUMA SCORES


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Background and Aims In 2018, we implemented a multidisciplinary chest trauma pathway, which includes a validated scoring system to identify patients at high risk of morbidity and mortality and a suggested analgesic plan including the use of regional anaesthesia, predominantly recommending erector spinae catheters.

We performed a retrospective study of the utilisation of regional anaesthesia in patients at high risk of morbidity and mortality in 2017. The chest trauma pathway was then introduced and data was collected prospectively thereafter. We analysed data for 2018, 2019 and 2021 to examine potential improvement and whether it was sustained over time. Data was not collected for 2020 due to covid-19.

Methods Retrospective and prospective data analysis for patients with chest trauma scores >21 (high risk), and >31 (very high risk) before and after the introduction of the chest trauma pathway.

Results We identified a total of 115 patients with a chest trauma score of >21 and 58 with a score of >31. In 2017, regional anaesthesia was used in 45% (n=5) of patients with a score >21 and 28% (n=2) with a score >31. This rose to 57% (n=11) and 87% (n=7) respectively in 2018, 58% (n=17) and 76% (n=10) in 2019, and 63% (n=82) and 81% (n=39) in 2021 (see table 1).

Conclusions Over time, our study shows that a dedicated chest trauma pathway not only identifies more patients admitted to hospital with significant rib fractures at high risk of complications, but through enhanced multi-disciplinary care, consistently improves access to simple regional anaesthetic techniques such as erector spinae catheters.

**B173** LOCAL ANESTHETICS AFFECT TUMOR BIOLOGY IN AN EX VIVO TISSUE MODEL OF NON- SMALL CELL LUNG CANCER

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Background and Aims Rates of tumor-related death in lung cancer are still high, despite improved treatment options and a deeper understanding of tumor biology and immune responses. Perioperative use of local anesthetics might influence outcome after tumor surgery(1), an effect possibly based on anti-inflammatory properties, leading to an inhibition of signaling processes crucial for metastasis(2–4). However, effects of local anesthetics on tumor biology in “real-life” tumors has not been investigated yet.

Methods After surgical removal, tumor slices from patients with NSCLC were cultured ex vivo and treated with different concentrations (1µM/10µM) of ropivacaine or lidocaine in absence or presence of cisplatin (3µM, n=9). After 72 h tissues were analyzed using immune-histochemistry/-fluorescence and Western blot. Levels of Ki67 (proliferation), cPARP (apoptosis), intercellular-adhesion-molecule-1 (ICAM-1), and CD163 expression (in tumor-associated macrophages) were assessed. The study was approved by the ethics committee at the University of Leipzig (protocol number 370/13-ek) and funded by the ESRA Research Grant.

Results Ropivacaine reduced the proliferating tumor cell fraction by 20% (1µM) and 27% (10µM), respectively. Both ropivacaine and lidocaine increased the share of apoptotic tumor cells by 20% (1µM) and 27% (10µM), respectively. Both ropivacaine and lidocaine increased the share of apoptotic tumor cells in a dose-dependent manner. Expression patterns of ICAM-1 as well as of tumor associated macrophages (CD163) were altered by lidocaine and ropivacaine in immunofluorescence staining.

Conclusions Local anesthetics might alter tumor-cell biology and the tumor-microenvironment ex vivo. Proliferation and ICAM-1 expression of tumor cells, along with CD163 expression of macrophages were affected by local anesthetics, thus supporting a less invasive and less malignant tumor phenotype. This once more underlines the possible impact of these drugs on patient outcome after tumor surgery.