57±9) and 60 patients(age 61±6), respectively. Mean physical function improvement for CT, IESI, CT+IESI groups 19.2 (95% confidence interval (CI)13.6 to 24.8), 22.4 (95% CI 16.9 to 27.9) and 26.7 (95% CI 21.5 to 32.7), respectively. IESI valuable for pain relief at short-term (MD 1.23, 95% CI 0.54-1.89; P=0.0002), CT+IESI at long-term (MD 0.85, 95% CI 0.46-1.24; P<0.0001)compared with CT. There were no statistically significant differences in functional improvement after CT and IESI at short-term and intermediate-term follow up (MD 3.65, 95% CI 2.24-5.06; P=0.21), long-term functional improvement observed in CT+IESI group (MD 0.81, 95% CI 0.48-1.14; P<0.0001). Patients' satisfaction with treatment was significantly higher in CT+IESI group (MD 1.30, 95% CI 1.12-1.48; P<0.0001).

**Conclusions** Use of combined CT+IESI therapy is more effective for relieving severe chronic LCSS pain than each of these therapy methods separately at long- term. Patients noticed more successful outcomes receiving CT+IESI. This study might help clinicians to make decisions for severe pain treatment of patients with LCSS.

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## EP118 ADDING PECS II BLOCK TO MULTIMODAL ANALGESIA HALVES 24-HOUR POSTOPERATIVE OPIOID REQUIREMENTS AFTER MINIMALLY INVASIVE CARDIAC SURGERY WITH CARDIOPULMONARY BYPASS – A TRIPLE-BLINDED, RANDOMIZED, CONTROLLED TRIAL

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**Background and Aims** Minimally-invasive, on-bypass cardiac surgery (MIC) through a unilateral mini-thoracotomy is increasingly popular but associated with high levels of postoperative pain, opioid consumption and opioid-associated side effects. This study aimed to elucidate whether adding a PECS block II to conventional multimodal analgesia improves opioid consumption, pain and quality of recovery.

**Methods** After approval by the ethics committee, patients scheduled for MIC were randomized between ultrasound-guided, preoperative unilateral PECS block with ropivacaine 0.5% vs. placebo (saline). Patients, practitioners and data collectors were blinded to the intervention drug; a standardized multimodal analgesic protocol was applied to all patients. Numerical rating scores (NRS), analgesic consumption and the Overall Benefit of Analgesia Score (OBAS) were collected at different time points up to 24 hours postoperatively, and compared between groups.

**Results** 57 patients were included (ropivacaine n=28, vs. placebo n=29). Block performance (after central venous access) took 5±2.5 minutes. Patients in the ropivacaine group had significantly lower morphine milligram equivalents (MME) during the first 24 hours after extubation (median (interquartile range): 4.2 (2.1-7.6) vs 8.3 (4.2-15.7) mg, p=0.016). NRS at extubation was lower in the ropivacaine group (0.0 (0.0-2.0) vs 1.5 (0.3-3.0), p=0.041). Non-opioid analgesic consumption was similar. The OBAS was, by trend, improved in the ropivacaine group (4.0 (3.0-6.0) vs. 7.0 (3.0-9.0), p=0.082). (table 1)

**Abstract EP118 Table 1** Postoperative pain treatment in pecs group vs. placebo

| Characteristic | Group Assignment: Placebo, N = 29[1] | Ropivacain, N = 28[1] | p-value[2] |
|---|---|---|---|
| Milligrams of Morphine Equivalent after Extubation 0-24h (mg) | 8.3 (4.2, 15.7) | 4.2 (2.1, 7.6) | 0.016 |
| Numerical Rating Scale (NRS) at Extubation | 1.5 (0.3, 3.0) | 0.0 (0.0, 2.0) | 0.041 |
| NRS at 2h | 1.0 (0.0, 2.8) | 1.0 (0.0, 1.5) | 0.3 |
| NRS at 4h | 1.0 (0.0, 2.5) | 1.0 (0.0, 1.8) | 0.8 |
| NRS at 6h | 1.0 (0.0, 2.2) | 0.5 (0.0, 1.0) | 0.090 |
| NRS at 12h | 1.0 (0.0, 2.5) | 1.0 (0.0, 2.0) | 0.5 |
| NRS at 24h | 3.0 (1.0, 4.0) | 2.0 (1.3, 3.0) | 0.7 |
| Paracetamol 0-24h (mg) | 2,000.0 (1,000.0, 2,000.0) | 2,000.0 (1,000.0, 3,000.0) | 0.6 |
| Metamizole 0-24h (mg) | 2,000.0 (1,000.0, 2,000.0) | 2,000.0 (1,000.0, 2,000.0) | 0.4 |
| Overall Benefit of Analgesia Score (the lower, the better) | 7.0 (3.0, 9.0) | 4.0 (3.0, 6.0) | 0.082 |

[1] Median (IQR)

[2] Wilcoxon rank sum test

**Conclusions** The addition of PECS II block to conventional, opioid-based multimodal analgesia protocols is a simple, yet effective measure to optimize opioid consumption, pain relief and side effect profile in patients undergoing MIC.

ethics pecs II block

## EP119 OUTPUT CURRENT AND EFFICACY OF PULSED RADIOFREQUENCY TO LUMBAR DORSAL ROOT GANGLION IN PATIENTS WITH LUMBAR RADICULOPATHY

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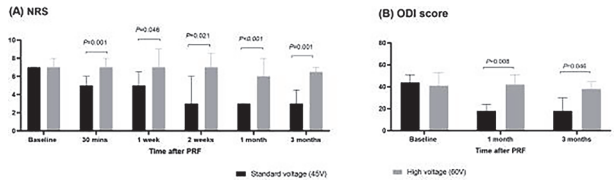
10.1136/rapm-2023-ESRA.181

**Background and Aims** Lumbar radicular pain (LRP) is a challenging clinical symptom. Pulsed radiofrequency (PRF), a neuromodulation technique that uses short pulses of radiofrequency current, is effective in treating pain disorders. This study aimed to determine the intraoperative parameters of PRF of the lumbar dorsal root ganglion (DRG) that are related to clinical effects in patients with LRP.

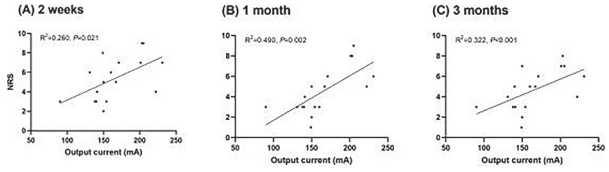
**Methods** This was a prospective, double-blind, randomized pilot study. The patients were allocated to two groups, the high-voltage (60 V) and standard- voltage (45 V) groups, according to the preset maximum voltage at which the active tip temperature does not exceed 42°C. The primary outcomes were radicular pain intensity, physical functioning, global improvement and satisfaction with treatment, and adverse events. The assessments were performed until 3 months.

**Results** The patients in the standard-voltage group showed significant improvements in the numerical rating scale (NRS) (P = 0.007) and Oswestry disability index (ODI) (P = 0.008) scores after PRF; but no difference in the high voltage group. Among the intraoperative parameters, the output current showed a significant negative linear relationship with analgesic efficacy and also a significant association with NRS (P = 0.005, R2 = 0.422) and ODI score (P = 0.004, R2 = 0.427) in the multiple regression analysis. The optimal cut-off

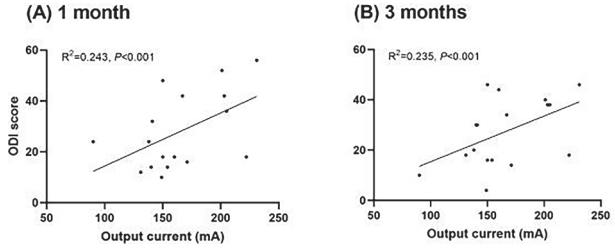
value of the output current was 163.5 mA with sensitivity of 87.5%, specificity of 100%, and an area under the receiver operating characteristic curve value of 0.92 (95% CI: 0.76–1.00).




**Abstract EP119 Figure 1** Changes in NRS (A) and ODI score (B) during 3 months between the groups. NRS, numeric rating score; ODI,: Oswestry disability index; PRF, pPulsed radiofrequency




**Abstract EP119 Figure 2** NRS according to the output current. NRS, numeric rating score




**Abstract EP119 Figure 3** ODI score according to the output current. ODI: Oswestry disability index

**Conclusions** We found that lower output currents during PRF to lumbar DRG associated with higher analgesic effects.

## EP120 TRANSCRANIAL DIRECT CURRENT STIMULATION FOR CHRONIC PAIN MANAGEMENT IN KNEE OSTEOARTHRITIS: A SYSTEMATIC REVIEW AND META-ANALYSIS OF RANDOMIZED CONTROLLED TRIALS

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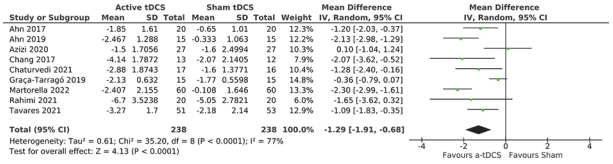
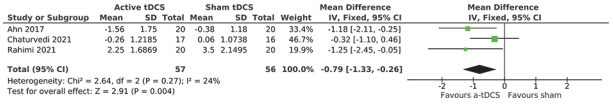
**Background and Aims** Knee osteoarthritis (KOA) is a prevalent degenerative disease characterized by pain and functional impairment. While traditional pain management provides limited relief, Transcranial Direct Current Stimulation (tDCS) has emerged as a potential modality for non-invasive pain modulation. We conducted a systematic review and meta-analysis evaluating the efficacy of active versus sham tDCS in these patients.

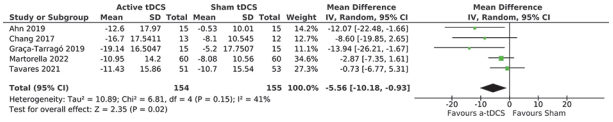
**Methods** PubMed, EMBASE and Cochrane were searched for randomized controlled trials (RCTs) comparing active M1-SO tDCS to sham tDCS in patients diagnosed with KOA experiencing chronic pain. We assessed WOMAC (Western Ontario and McMaster Universities Osteoarthritis) index and pain score changes in different time points following treatment sessions. RevMan 5.4 and the RoB-2 tool were used for statistical analyses and risk of bias evaluation, respectively.




**Abstract EP120 Figure 1** Pain scores reduction from baseline to the end of treatment significantly favoured the a-tDCS group




**Abstract EP120 Figure 2** The reduction in pain scores from three to five weeks showed favourable results for the a-tDCS intervention




**Abstract EP120 Figure 3** The a-tDCS group showed more significant reduction in WOMAC index following treatment when compared to sham tDCS

**Results** We pooled 9RCTs including 476 patients, 50% undergoing active tDCS. The initial assessment, comparing treatment-end pain scores with baseline scores revealed a significantly favorable effect for tDCS (figure 1). Two additional measurements were conducted after the conclusion of the treatment. The first, performed after 3-5 weeks, revealed significantly reduced scores in the active tDCS group (figure 2). The second, conducted after 2-3 months, indicated no statistically significant differences (Mean Difference -0.65; 95%CI -1.35 to 0.05; p<0.07; I2=49%; 3RCTs; 278 patients). Regarding the WOMAC scores, active tDCS also exhibited a significant decrease in comparison to the control group (figure 3).

**Conclusions** Our findings suggest that active tDCS holds promise as an adjunctive therapy to standard pain management of chronic pain in knee OA as it may decrease pain and increase function.