Background and Aims Despite increased attention to optimizing prescribing practices in response to the opioid epidemic in the United States, limited guidance is available to assist the prescriber and patient with weaning off these medications. Numerous barriers to effective tapering exist.\(^1\)\(^-\)\(^4\) In order to address these barriers and leverage the advantages of electronic health record (EHR) systems, our team sought to develop a novel electronic tool (e-tool) to facilitate the selection of and compliance with an opioid tapering schedule.

Methods As a clinical informatics and e-tool development project, Institutional Review Board review was not required. An assessment of current functionalities for medication tapering in Epic, our hospital’s EHR, was performed to identify components for optimization. Clinical members of a specialized opioid task force selected tapering options to include in the novel tool build, and customized graphical instructions to match these prescriber’s options were created.

Results A fully integrated, novel electronic opioid tapering tool was built in our hospital’s EHR system. Upon entering an opioid in the novel order entry workflow, the prescriber can select from pre-programmed tapering plans that consider starting dose, frequency of medication use, the frequency of dosage decrease and the desired opioid reduction (Figure 1). The output is a personalized, tapering schedule with graphical instructions that can be printed or emailed to the patient and stored in the patient’s electronic medical record for future reference (Figure 2).

Conclusions Barriers to opioid tapering can be overcome by leveraging EHR functionality to create, automate, and generate personalized plans and instructions with images.

Background and Aims The principle of minimising opiate use underpins Enhanced Recovery After Surgery (ERAS), with reduced post-operative morbidity and shorter length of hospital stay. In addition, evidence is increasingly suggestive that opiate use increases the risk of cancer disease recurrence. Minimally-invasive surgical techniques are key, however the costs of robotic surgery can be prohibitive.

Many studies seeking to establish economic benefit of robotic surgery have looked at surgical outcomes, but little research focuses specifically on pain control.

This study assesses whether the introduction of a robotic service for colorectal cancer surgery improved patient outcomes with reduced post-operative pain and opiate use.

Methods Retrospective analysis of 41 robotic and 42 laparoscopic colorectal cancer surgeries with oxycodone or morphine Patient Controlled Analgesia (PCA) as the primary source of post-operative pain control. Ethics Committee approval sought and obtained. Primary outcomes were hours of PCA use and oxycodone-equivalent milligrams administered. Median and mean values calculated. Mann-Whitney U Test used to assess for statistical significance (p<0.05).

Results PCA use was significantly less following robotic surgery than laparoscopic surgery, both in terms of total opiate delivered (laparoscopic mean 88mg (median 55mg), robotic mean 54mg (median 40mg), p-value 0.002) and duration of PCA use (laparoscopic mean 46 hours (median 43 hours), robotic mean 65 hours (median 49 hours), p-value 0.001).
Conclusions This study indicates that a robotic approach in colorectal cancer surgery significantly reduces post-operative pain as measured by PCA usage, enhancing the ERAS programme and justifying its consideration in economic calculations for the introduction of a robotic service.

B303 EFFICACY OF ERECTOR SPINAE BLOCK ON POST-OPERATIVE MORPHINE CONSUMPTION AND EXPRESSION OF IMMUNE CELLS IN PATIENTS UNDERGOING BREAST CANCER SURGERY: A PROSPECTIVE RCT

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Background and Aims Opioid use has been associated with unwanted side effects and cancer recurrence. Regional anaesthesia may provide better analgesia, reduce opioid usage, and may reduce cancer progression. We conducted this trial to study the efficacy of erector spinae block (ESP) based anaesthesia on postoperative opioid consumption and immune cell expression in patients undergoing breast cancer surgery.

Methods After ethics committee approval, 100 female patients undergoing breast cancer surgery were randomly allocated into two groups: group N (received ESP intraoperative opioids) and group O (received intraoperative opioid). Standard anaesthesia technique followed and post extubation morphine given using patient-controlled analgesia pump. 24-hours postoperative morphine consumption was calculated (Primary outcome). The secondary outcomes were NRS (numerical rating scale) for pain and any side effect of opioid at 0, 30 min, 1 hour, 2-hour, 6-hour, 24-hour post operatively and Neutrophil-lymphocyte ratio (NLR), number of Natural Killer Cells (NKCs), T-helper cells and cytotoxic T cells at baseline, immediate post-operative period and after 24 hours.

Results Total post-operative morphine consumption (2.0 ±2.12mg vs. 3.08±3.69mg; p-value=0.132) and change in NLR from baseline at 24 hours was less with ESP. NRS scores at rest and movement at various time points were similar. NKCs, T-helper cells and cytotoxic T cells were found to be higher in the ESP group.

Conclusions ESP block provided similar postoperative morphine consumption and lesser immunosuppression in breast cancer surgeries as compared to standard opioid based technique. Further studies are needed to see the feasibility of ESP based opioid technique and develop standard protocol with minimal side effects.

B304 EFFICACY OF REGIONAL NERVE BLOCKS IN ELECTIVE SHOULDER SURGERIES IN POST-OPERATIVE PAIN AND OPIOID REQUIREMENTS

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Background and Aims Shoulder surgery causes significant post-operative pain needing large doses of opioids associated with adverse effects (1). Regional blocks reduce opioid requirements allowing early functional recovery and discharge (2). A study has shown that a Shoulder Arthroplasty enhanced Recovery Protocol (ShARP) has significantly reduced the length of stay (3). We plan to introduce a protocol in our hospital and, therefore, conducted this audit following approval from institutional ethics committee (see Figure 1).

Methods We analysed charts of patients who had elective arthroscopic shoulder surgery over 1-year period (Jan’20 – Jan’21). Comparison were then made between the patients who received a regional block and the patients who received systemic analgesic only. Primary outcome was the 24 hour cumulative oral opioid consumption. Secondary outcomes included pain scores at the PACU and 24 hours post-operatively, opioid related side-effects and regional anaesthesia related complications.

Results Charts of 87 patients were analysed (74 received regional block, 13 received systemic analgesics only). Demography and the preoperative opioid use was comparable between the groups (Table 1). 15 patients (13 with a block, 2 without) were discharged before 24 hours. Of the remaining 72, the mean morphine equivalent opioid consumption was significantly low in regional block group (Table 2). The mean pain score at recovery was significantly lower in block group but this difference was not statistically significant at 24 hours (Table 3).