



Point of Technique Cardiac Critical Care

# Rectus Sheath Block in Cardiac Surgery

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Received : 14 April 2023  
Accepted : 25 April 2023  
Published : 30 May 2023

DOI  
10.25259/JCCC\_20\_2023

Quick Response Code:



## ABSTRACT

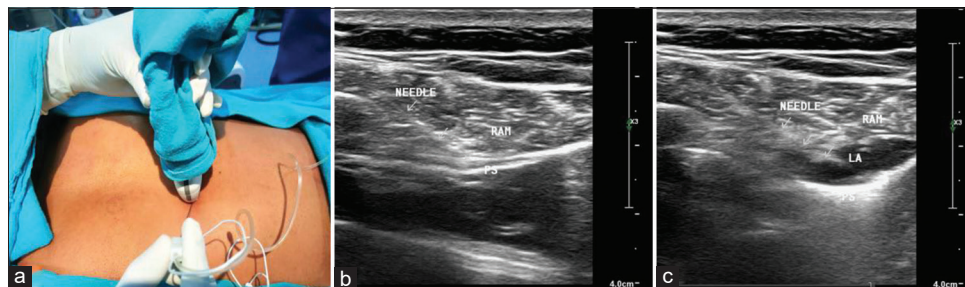
The importance of a procedure-specific pain management regime is being ardently discussed across diverse operative settings. The same becomes only more relevant in a peculiarly invasive cardiac surgical setting. In this context, we report the technical considerations of performing a rectus sheath block in cardiac surgery.

**Keywords:** Cardiac surgery, Drain site pain, Opioid sparing, Rectus sheath block, Ultrasound guided

- Pain after cardiac surgery is peculiarly multifactorial demanding a procedure-specific pain management approach. For instance, we have recognized many of our patients reporting significant pain at the drain-insertion site in the post-operative period.<sup>[1,2]</sup>
- Ultrasound or USG-guided rectus sheath block (RSB) in this context can provide an effective analgesic cover for the subxiphoid drainage pain in addition to offering somatic analgesia pertaining to the median incisions.<sup>[1-3]</sup>
- We thus usually perform a bilateral RSB for our cardiac surgical patients. With the patient in a supine position, a high-frequency L 12-3 MHz linear USG probe (EPIQ7C, PHILIPS, Holland) is placed 2–3 cm below the xiphoid in the corresponding epigastric region [Figure 1a]. Using a 21-gauge × 100 mm Stimuplex A block needle (B. Braun, Melsungen, Germany), an in-plane approach is employed to reach the target plane between the rectus abdominis muscle and its posterior sheath (PS) [Figure 1b]. Following hydro-dissection with normal saline to confirm the desired plane, 15 mL of dilute concentrations of 0.25–0.3% ropivacaine is injected on each side [Figure 1c].
- Originally described by Schleich way back in 1899,<sup>[4]</sup> it is quite recently that Wang *et al.* combined RSB with pecto-intercostal fascial block in cardiac surgical patients to demonstrate a significant reduction in the post-operative opioid requirement.<sup>[2]</sup>
- Meanwhile Everett *et al.* also suggest RSB as a safe inclusion to the multimodal perioperative analgesic schemes in cardiac surgery,<sup>[5]</sup> independent researchers are showcasing an ever-increasing interest in composite analgesic liaisons such as pectoralis-intercostal-rectus sheath plane block with indwelling catheters.<sup>[6]</sup>
- Indeed, deliberating the opportunities surrounding the provision of procedure-specific analgesia in cardiac surgery is particularly pertinent in the era of enhanced recovery propounding the need for effective and safe perioperative opioid-sparing practices.<sup>[2,5-8]</sup>

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**Figure 1:** Depiction of the ultrasound (USG) probe positioned 2–3 cm below the xiphoid process (a), Sonoanatomy of the rectus sheath block, visualizing the needle inserted in-plane with the tip located between rectus abdominal muscle and its' posterior sheath (b), USG-image showing local anesthetic administration within the rectus sheath (c).

### Declaration of patient consent

Patient's consent not required as there are no patients in this study.

### Financial support and sponsorship

Nil.

### Conflicts of interest

There are no conflicts of interest.

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**How to cite this article:** Jose J, Magoon R, Kaushal B. Rectus sheath block in cardiac surgery. *J Card Crit Care TSS* 2023;7:104-5.