

# Inauguration of a Successful Block Room at a Tertiary Care Facility: Different Plans and a Different Outcome

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## Abstract

Establishing a block room or dedicated space outside the operating theatres for performing regional anesthesia techniques is reported to improve patients' clinical care, satisfaction, enhance teaching and education and cost effect regarding saving operating room hours. In this article, the author represents two trials for establishing a successful block room at a tertiary care facility. By demonstration, the Plan-Do-Study-Act model for quality improvement, the essential components, and necessary actions were recognized and done over two years' timeframe. The number of patients receiving regional anesthesia in the block room increased significantly from 85 to around 200 after one year of operation. Then, it reached stability towards the end of the study period. The total no of patients who received regional anesthesia increased in 2018 compared to 2017 from 1800 (9%) to 2324 (11.6%), and in 2019 to 3132 (15.7%) of the total patients operated annually.

The annual cases for fellows increased significantly from 52 ± 28 cases to 164 ± 42 cases annually ( $p < 0.05$ ). The total daily working hours added nine daily hours to ORs to recruit more patients during the daytime.

In conclusion, establishing a successful block room helps improve patient's clinical care and decrease the cost of OR utilization by adding more hours to busy operating theatres and improving teaching and education.

**Keywords:** Block room • Regional anesthesia • Postoperative pain

**Abbreviation:** PACU: Post Anesthesia Care Unit • OR: Operating Room • Cerner: EMR: Electronic Medical Record • Clinical Information System • Pyxis: Automated Dispensing Machine System • Cubical: Patient's Space at Post Anesthesia Care Unit • Category 1 patients: Patients Receive Preoperative Regional Anesthesia at Block Room • Category 2 patients: Patients Receive Regional Anesthesia at OR By Attending Anesthesiologist • Category 3 patients: Patients Receive Regional Anesthesia Postoperative in PACU

## Introduction

A block room is a dedicated space outside of operating theaters for performing regional anesthesia [1]. It took over 30 years to establish the idea, especially with the establishment of ultrasound-guided regional anesthesia techniques. The aim is to promote the efficiency of the education process, research, and patient's postoperative pain relief experience while doing regional a variety of regional anesthesia techniques for different indications.

The establishment of a block room had been reported to reduce pre-procedure Operating Room (OR) time (time while a patient is in the operating room till ready for surgery) in upper-extremity surgeries by 21 minutes [2] and subsequent reduction of OR turnover time. This reduced time is achieved by saving the time of the regional anesthesia-related process that would have been spent by being completed in the block room, minimizing or eliminating anesthesia-related time spent in the OR.

Time saving could be achieved even by blocking the first patient on the list earlier in the block room.

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Previous reports had documented that a reduction in pre-procedure time can reduce the Operating Room cost, as estimated OR time cost ranges from \$36 to \$62 per minute [3,4]. Moreover, regional anesthesia can reduce cost by reducing recovery room stay, hospital stay, and probably the likelihood of an intensive care unit admission [5]. On the education side, experts in regional anesthesia can demonstrate their knowledge and experience for a large number of trainees who will potentially be in the future involved in performing a wide variety of an enormous number of regional anesthesia procedures [6,7]. The effect on education is beneficial within the academic health centers with anesthesia residents and fellows and the promotion of research activities.

It's challenging to establish a successful block room at any hospital, and the process is different from institution to institution. At our institution, we planned to build a block room in 2015, and the preliminary pathway was primitive simple and had a lot of deficiencies regarding process planning, suitable location, proper structuring, and poor cooperation from the surgeons. Again in 2017, we learned from the first trial in 2015 in a way that our second trial was successful. Including a clear and intact patients' pathway, proper dedicated two large block rooms that allow a block of two patients at the same time, these rooms fully equipped and patients are adequately monitored, in addition to a Pyxis machine providing all the necessary drugs and emergency trolley containing resuscitation drugs and equipment. The current block room has a big dedicated team of anesthesiologists highly expert and credentialed in regional anesthesia. The assigned consultants, fellows, and residents cover the service according to a weekly rotation schedule.

We are writing this article to share our experience and knowledge with others who are still on the way to establish a block room at their institution.

## Methods

In the present article, a quality improvement project by using the Plan-Do-Study-Act model was implemented. The aim is to establish a regional Anesthesia block room at a tertiary care hospital, to serve 18 daily working ORs. The time frame was planned from January 2018 to December 2019. The increase in monthly done blocks will be the first endpoint or outcome of the study. The pain scores at (15 and 30) min of admission to PACU, and the annual number of patients done by fellows were measured as a secondary outcome. The total number of hours added to operating theatres will be measured as a cost reduction.

Before starting the project, we identified the components required for the establishment of a successful block room as follows:

1. Who will identify patients and surgeries who may benefit from regional anesthesia?
2. Regional anesthesia providers and the related administrative support
3. Infrastructure:
  - Space, equipment and drugs
  - Oxygen, suction and vital signs monitors
  - Resuscitation equipment
  - Close proximity to ORs
4. Support
  - Hospital administration
  - Anesthesia staff
  - Surgeons

- OR Nursing
- Post Anesthesia Recovery Room (PACU) administration and staff
- Patients' transport

5. Data collection for the purpose of auditing practice and monitor improvement

Separate two-block rooms in the vicinity of the main entrance of ORs were selected in January 2017 as a suitable place in PACU. This choice was supported and approved by the hospital administration and OR nursing director. This option was not available in 2015, and the bed selected was an ordinary small PACU cubical that was used casually for the administration of preoperative blocks. The ultrasound machine supplies each bed, patient's monitor, suction, oxygen source, and EMR (Electronic Medical Record), Cerner access for procedure documentation. All medications are accessible to block room users via the Pyxis machine located beside the block room entrance.

Three expert anesthesiologists in regional anesthesia were chosen in 2017 to lead the project and block room compared to one in 2015. The selected anesthesiologists are responsible for recruiting patients for regional anesthesia procedures as primary or secondary. Primary block room activity is defined as doing the block at block room by one of the three senior anesthesiologists or supervising fellows or residents. While secondary regional anesthesia procedure is described as supervising room anesthesiologist when performing the block to follow the same guidelines and ensure a better quality of the block.

Patient pathways, process maps, and nurse roles were written, reviewed, and approved by the administration, OR, and PACU nursing (Tables 1 and 2 and Figure 1). This pathway was not done in 2015 and was recognized as the central failure reason.

**Table 1.** Rules and regulations of block room operation.

<b>Rules and regulations of the block room</b>	The block room consultant is responsible for the block room and PACU at same time
	The fellow in block room may be requested to assess cases scheduled for regional block and finalizing informed consent
	Day before, the evening Follow at OT lists should identify patients for next day block and notify the anesthetist in charge, check the consent, and anticoagulation, arrange and confirm surgeon approval etc
	Two patients should be elected by the fellow in charge and scheduled as first case for regional block at 6:30 in the morning. The front disk should be informed for preparation and sending
	At 6.30 in the morning the block room anesthetist should have a copy of elective and emergency lists and start identifying the patient potential for regional block
	At 7 am Coordination with the room anesthetist the block room anesthetist has to start direct personal communication with the anesthetist in all the 17 rooms by doing a round , this would have a good impact on the number of cases achieved per day
	Block room anesthetist should establish the draft of the day's patient list
	Coordination with the circulating nurse to call for the cases at least one hour before finishing the ongoing case
	Coordinate with APS for potential cases if they have
	Documentation on anesthesia chart Cerner is mandatory and we have tested and data are flowing to anesthesia charts properly
	Record keeping daily is mandatory in log book
	The anesthetist in block room has to communicate with the pre-anesthesia assessment colleagues for consenting patient for either regional block or for post-operative pain management
	Block room could be used by anesthetist in the room and APS anesthetist only after arranging with the assigned block room consultant and the coordinator
	In some few occasional cases, it is acceptable to do the block inside the operating room, if it helps in proper time management. For example, if the room anesthetists are busy with some other procedure like inserting arterial line, the block room anesthetist can perform the block inside OR for better time management. There shouldn't be any conflict or competition between the block room and the OR
	Combined spinal epidural is permitted only if opioids is used intrathecal or in the epidural space, kindly use the Pyxis machine if you need any emergency medication

Block room could be used for catheter care including refilling, dressing, checking and removal

Block room could be used for managements of patients with acute pain on top of chronic pain only if the patients are hospitalized and not for patients at emergency rooms

Day care patients who receive blocks should be individually and case by case assessed for discharge time as complete sensory and motor function should be returned before discharge

Post-operative blocks (Category 2) should be done in patients' cubical

The duty in block room is 6:30-3:30. Overtime should be claimed

Patients are classified as Category (1) for preoperative blocks, Category (2) for postoperative blocks and Category (3) for pain management blocks

A patient encounter was created on the Cerner and connected by block room action to the main encounter for more straightforward one anesthesia sheet documentation.

The postoperative block was arranged for patients with significant pain scores who are not responsive to the current analgesics. Those patients are blocked at their PACU cubical and documented on the Cerner. Anesthesia technologists rotate in the block room weekly to assist the performing anesthesiologist. The supervising anesthesiologist looks at all 22 PACU beds for the best service and not a burden on the anesthesia provider service.

## Block Room Documentation Standards

In order to standardize the anesthesia documentation in the block room, we have to follow these steps:

**In case of preoperative block:** The anesthetist in block room has to do the following.

- From the Anesthesia Chart application in the main domain Prod, select the correct patient name from the preplanned OT room
- Then associate the monitors (until we configure the monitors to automatic association in the block room)
- To select the appropriate macros from the new tab under the main view in green color either USG RA ± GA/Sedation or CSE/Epid/Caudal

**Then after doing the preplanned block:**

- Execute and fill the required actions and medications used related to the procedure
- Enter your personal information, start and finish time
- Go to do list select all and delete
- Sign and suspend
- Handover your patient to OT and record manually patient vitals during transfer to OT (as the device team still solving the problem)
- The anesthetist of OT room again has to select the same patient from the Anesthesia Chart application in the main domain Prod and associate devices in the OT (if not automatically associated) and select the appropriate macro as for example (simple GA or sedation) if he/she preplanned to sedate or to maintain GA

The newly created Main view in Green Color Under main view tab will include the following Macros:

- 1-Simple GA adult 2-Complex/trauma GA
- 3-Spinal anesthesia 4-CSE/EPID/caudal/ ± GA
- 5-USGRA ± sedation/GA 6-Local ± sedation
- 7-MAC 8-Chronic pain

**In case of postoperative block: If it is planned block:**

- In OR, Execute and fill the required actions and medications used related to the procedure go to do list select all and delete
- Sign and suspend the case
- Once the patient arrives the PACU, the anesthetist in block room has to open the Anesthesia Chart application in the main domain Prod then select the same patient and associate devices in the PACU and select the appropriate macro as for example USGRA. Execute and fill the required actions and medications used related to the procedure
- Enter your personal information, start and finish time
- Sign and finalize

If it is unplanned postoperative block: The anesthetist in the PACU has to select the same patient from the Anesthesia Chart application in the main domain Prod and un-finalize the case and then associate the devices in the PACU and select the appropriate macro. Execute and fill the required actions and medications used related to the procedure

- Enter your personal information, start and finish time
- Sign and finalize

## Results

The run chart was used to display the change over time with an indication of a change in pattern and trend when 5-6 useful readings are above or below the median [6].

Numerical values are presented in means and SD and compared between two groups by simple t-test of significance at p=0.05.

The number of patients receiving regional anesthesia in the block room increased significantly from 85 to around 200 after one year of operation. It was demonstrated by run chart (Figure 2), then reaching stability until December 2019. Additionally, the total no of patients who received regional anesthesia increased in 2018 compared to 2017 from 1800 (9%) to 2324 (11.6%), and in 2019 to 3132 (15.7%) of the total patients operated annually.

**Table 2.** Nurse role in the block room.

PACU-HGH nurse role in the Block Room	
Role and responsibility for the PACU nurse in the Block room for category 3 Nerve Block (when the patient is coming from Inpatient unit or Emergency Department)	<p>Inform the OR reaction nurse upon receiving the information for the block from the anesthetist, to book the patient in the OR schedule within 30 minute from the procedure</p> <p>The PACU nurses have to:</p> <ul style="list-style-type: none"> <li>• Receive full hand over from the inpatient unit or emergency department staff nurse</li> <li>• Double check the Perioperative checklist</li> <li>• Ensure that the consent for procedures and anesthesia is signed according to policy</li> <li>• Initiate the Electronic documentation or PACU flow sheet in case of Cerner downtime according to hospital policy and unit guidelines</li> <li>• Assess the patient vital signs and head to toe physical assessment</li> <li>• Continue monitoring of patient's vital signs during the procedure</li> <li>• Perform final assessment and assess patient readiness to be transferred to the ward</li> <li>• Deal with any unusual situation according to the patient's need</li> </ul>
Role and responsibility for the PACU nurse in the Block room for category 2 Block (when the patient is planned for Nerve block post-surgery)	<p>Ensure the order for the nerve block</p> <p>The PACU nurses have to:</p> <ul style="list-style-type: none"> <li>• Ensure that the consent for procedures and anesthesia is signed according to policy</li> <li>• Initiate the Electronic documentation or PACU flow sheet in case of Cerner downtime according to hospital policy and unit guidelines</li> <li>• Assess the patient vital signs and Head to toe physical assessment</li> <li>• Continue monitoring of patient's vital signs during the procedure</li> <li>• Perform final assessment and assess patient readiness to be transferred to the ward</li> <li>• Deal with any unusual situation according to the patient's need</li> </ul>

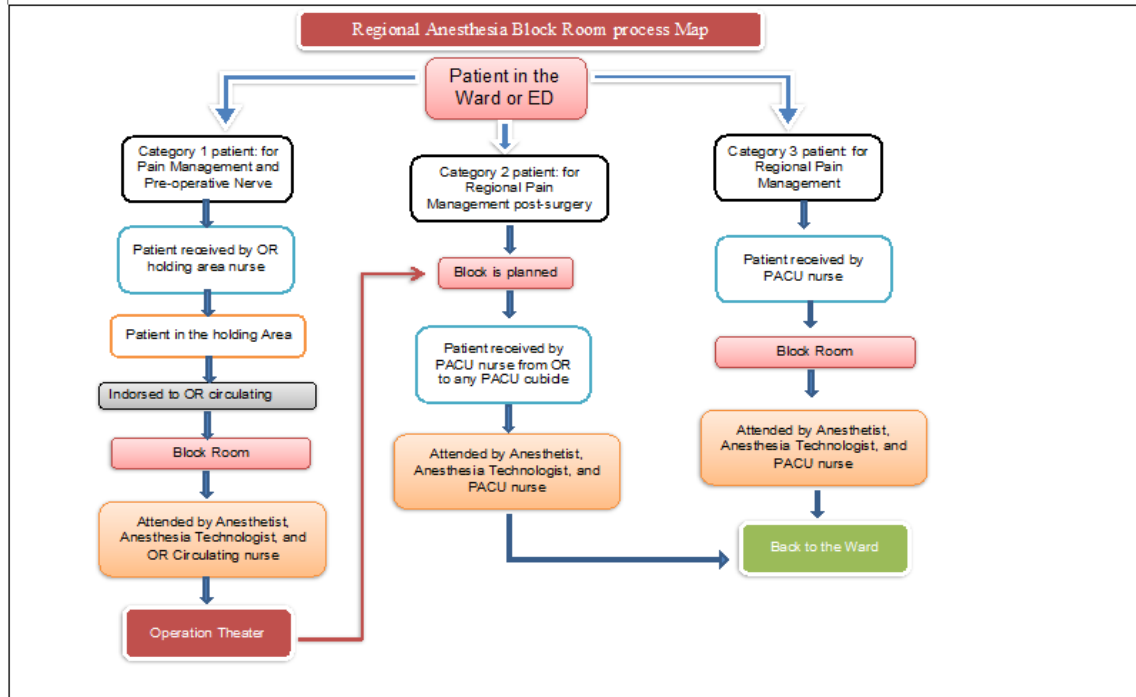


Figure 1. Regional anesthesia process map.

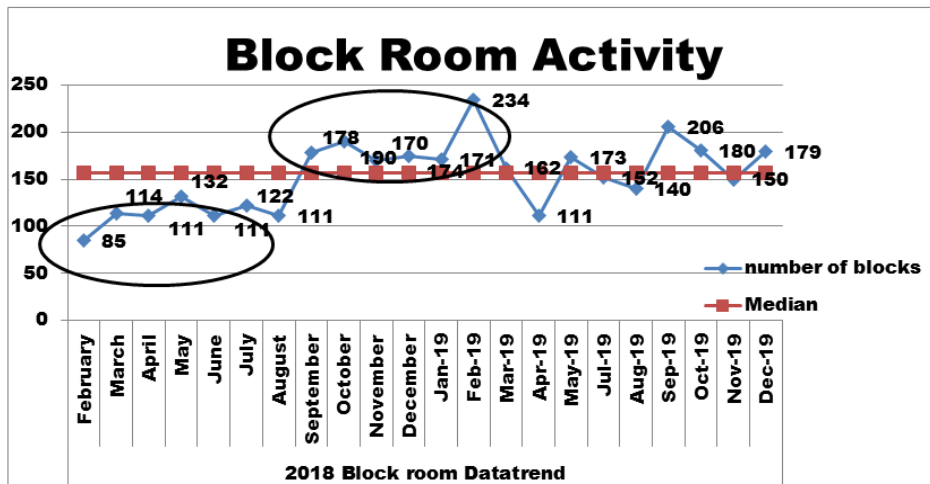
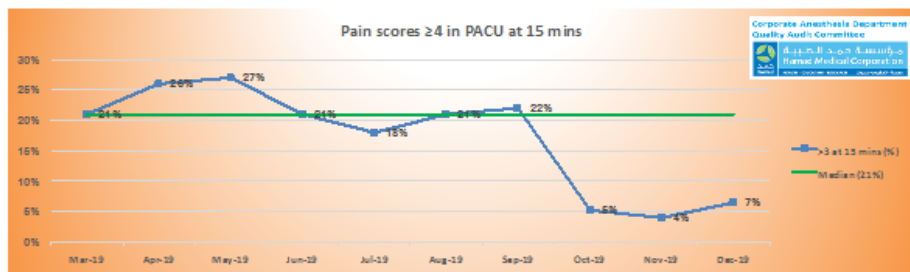


Figure 2. Block room activity between February 2018 and October 2019.



	Mar-19	Apr-19	May-19	≥4 Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19
>3 at 15 mins	32	39	41	32	27	32	33	8	25	34
Total Pts Audited	150	150	150	150	150	150	150	150	620	517

**Definition :** Post Operative Pain at 15 mins after admission at PACU  
**Numerator:** Number of patients had pain score ≥4 after 15 mins of admission to PACU x 100  
**Denominator :** Total audited patients (patients underwent Surgery at HGH Operating Theatre)

Figure 3. Run chart for postoperative pain score at 15 mins after admission to PACU.

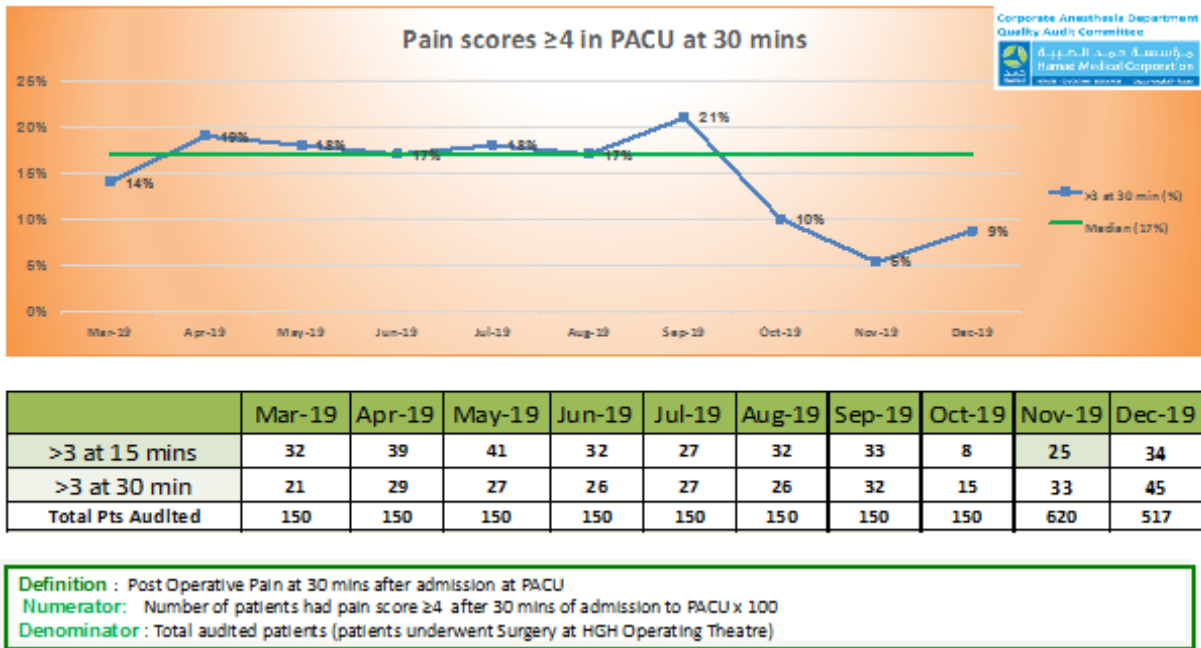


Figure 4. Run chart for pain scores after 30 min of admission to PACU.

Table 3. Types of regional anesthesia provided in percentage over 18 months.

Regional anesthesia blocks	
<b>Lower limb blocks 39%</b>	Sciatic Popliteal nerve block
	Sub gluteal sciatic block
	Trans gluteal Sciatic nerve block
	Adductor canal block
	Lateral Femoral cutaneous nerve
	Femoral nerve block
	Saphenous nerve block
	Obturator nerve block
	Fascia iliaca block
	Ankle block
<b>Upper limb blocks 17%</b>	Interscalene block
	supra clavicular Brachial plexus block
	Infra clavicular brachial plexus block
	Axillary Brachial plexus block
	Radial nerve block
	Median nerve block
<b>Chest and abdominal wall blocks 37%</b>	Para vertebral
	Pecs-II
	Erector spinae block
	Erector spinae bilateral
	TAP block
	Bilateral rectus sheath
<b>Other procedures 7%</b>	Thoracic epidural
	Cervical medial branch nerve root block
	Cervical ESP block
	Lumbar puncture
	Pyriformis block
	Lumbar medial branch nerve root block
	caudal
	Lumbar epidural
Sacro iliac joint injection	
Vascular access	

Improvements in pain scores for patients admitted to PACU at (15 and 30) min postoperative is well seen as in Figures 3 and 4.

Improvement in education is represented as a percentage of an increase in the no of regional anesthesia procedures done by regional anesthesia fellows. The annual cases for fellows increased significantly from 52 ± 28 case to 164 ± 42 case annually (p<0.05). The total daily working hours added nine daily hours to ORs to recruit more patients during daytime.

Different block types were done between February 2018 to October 2019 (Table 3). The regional anesthesia block was provided 32% as pure Surgical Anesthesia/Analgesia, 14% pure surgical anesthesia, 35% for postoperative analgesia and 19% for pain relief to position in orthopedic cases and chronic pain procedures.

## Discussion

Regional anesthesia is a specialty that has been progressed through experience and training using new equipment and technology. The safety and effectiveness are kept a standard of practice by following different key guidelines and the availability of a nominated area for performing regional anesthesia and the availability of all the necessary drugs and equipment. Additionally, several institutions have electronic medical records that allow Careful documentation of the performed procedure as a standard of practice [7].

Currently, anesthesia and postoperative pain management achieved by providing regional anesthesia have significant sequel and outcome. The expected outcome includes enhancing patients' satisfaction, reducing postoperative chronic pain, postoperative enhanced recovery, perioperative reduced narcotic use, and reduced postoperative length of stay in the hospital [8]. Furthermore, the rate of recurrence post breast surgery in published research was feasibly decreased [9].

Time is required to acquire appropriate competency for ensuring that the regional block is conducted in the safest and most efficient application throughout the procedures. The use of proper equipment, adequate patient monitoring is mandatory, including standard ASA monitoring. The input of the block room on teaching and efficient training would add to the safety of patients receiving regional anesthesia [10].

The data presented in this quality improved project shown an improved outcome regarding the type of regional anesthesia block and the number that significantly increased after organizing a block room, a result supported by Head et al. study [11].

Other publications supported the reduction in pain scores postoperative. Additionally, epidural anesthesia, paravertebral block, and erector spinae plane block reduce postoperative chronic pain [12,13].

Moreover, the introduction of a block room had been reported to reduce the pre-procedure time by 19 minutes in patients required the insertion of thoracic epidural anesthesia [2].

Additionally, after establishing a block room at United Kingdom teaching hospital, they were able to reduce anesthetic time to allow for an average of one additional case per day after performing 25 blocks a week in the OR and delaying the start of surgery [14].

At our institution, 9 hours of OR time is saved (198 to 207 hours monthly), constituting 5.1% of the total daily operating room hours and 20% of the total daily working hours of Orthopedic rooms. When translated to cost reduction, 16-17 thousands of US dollars are saved daily. Other studies demonstrated the increase in OR efficiency with block room use [3,4] while others fail to show improvement in OR efficiency and pre-procedural time [15].

The presentation of the cost reduction in Macachor et al., study who saved 20 minutes of anesthesia controlled time equivalent to 300 US dollars per block [16].

The impact of the establishment of the block room on education at our institution was enormous. It facilitated doing triple the number of regional anesthesia procedures for fellows and residents that they were doing before. The increase in the number of patients who received regional anesthesia in our facility resumed the proper selection of the assigned team members and excellent communication with surgeons. The increase in blocks' success leads to build trust during these two years of practice between the team and surgeons. The decrease in pain scores after admission to PACU does reflect the exemplary conduct of regional anesthesia. Gleicher et al. presented the increase in the success rate of thoracic epidural anesthesia done in block room compared to OR and related it to more relaxation and appropriate relief of the stress of time in OR [2].

Similar cost reduction proved in this article based on the calculation of total working hours per day for the block room and deduct it from operating rooms utilization hours.

Lastly, this is not the end; more effort is required to recruit more patients and convince hesitant surgeons to use regional anesthesia as an adjunct to general anesthesia or as a sole anesthetic for surgery in addition to acute pain management. More focused data collection will help in finding a week and risk areas suitable for improvement.

## Conclusion

Regional anesthesia is a standard anesthetic practice. Establishing a successful block room helps in the improvement of patients' safety and satisfaction. A block room proved to decrease the cost of OR utilization and improve teaching and education.

The impact of block room on individual patients' outcomes and other hidden areas like post-operative ICU admission and development of block success should be addressed.

## References

1. Rosenblatt, Richard M, and Ruth Shal. "The Design and Function of a Regional Anesthesia Block Room." *Reg Anesth Pain Med* 9 (1984): 12-16.

2. Gleicher, Yehoshua, Oskar Singer, Stephen Choi, and Paul McHardy. "Thoracic Epidural Catheter Placement in a Preoperative Block Area Improves Operating Room Efficiency and Decreases Epidural Failure Rate." *Reg Anesth Pain Med* 42 (2017): 649-651.
3. Crnic, Agnes, Colin M McCartney, and Meghan McConnell. "A Procedure Room for Regional and Neuraxial Anesthesia: Effects on or Efficiency and Patient Satisfaction. In Anesthesiology annual meeting. Boston, MA: American Society of Anaesthesiologists." 2017.
4. Berwick, Donald M. "A Primer on Leading the Improvement of Systems." *BMJ* 312 (1996): 619-622.
5. Liu, Spencer S, Wyndam M Strodbeck, Jeffrey M Richman, and Christopher L Wu. "A Comparison of Regional Versus General Anesthesia for Ambulatory Anesthesia: A Meta-Analysis of Randomized Controlled Trials." *Anesth Analg* 101 (2005): 1634-1642.
6. Perla, Rocco J, Lloyd P Provost, and Sandy K Murray. "The Run Chart: A Simple Analytical Tool for Learning from Variation in Healthcare Processes." *BMJ Qual Saf* 22 (2011): 46-51.
7. Chin, A, L Heywood, P Lu, and AM Pelecanos, et al. "The Effectiveness of Regional Anaesthesia Before and after the Introduction of a Dedicated Regional Anaesthesia Service Incorporating a Block Room." *Anaesth Intensive Care* 45 (2017): 714-719.
8. Webster, Fiona, Samantha Bremner, and Colin JL McCartney. "Patient Experiences as Knowledge for the Evidence Base: A Qualitative Approach to Understanding Patient Experiences Regarding the Use of Regional Anesthesia for Hip and Knee Arthroplasty." *Reg Anesth Pain Med* 36 (2011): 461-465.
9. Exadaktylos, Aristomenis K, Donal J Buggy, Denis C Moriarty, and Edward Mascha, et al. "Can Anesthetic Technique for Primary Breast Cancer Surgery Affect Recurrence or Metastasis?" *Anesthesiol* 105 (2006): 660-664.
10. Sebastian, MP, Navkiran Kaur, and Damon Kamming. "Can Regional Anaesthesia be Performed Before General Anaesthesia Without Compromising Patient Satisfaction: Patient's Perspective in a Central London Teaching Hospital." Poster, ASRA Chicago (2013).
11. Head, Stephen J, Rachael Seib, Jill A Osborn, and Stephan KW Schwarz. "A "Swing Room" Model Based on Regional Anesthesia Reduces Turnover Time and Increases Case Throughput." *Can J Anaesth* 58 (2011): 725-732.
12. Andreae, MH, and Doerthe Adriana Andreae. "Regional Anaesthesia to Prevent Chronic Pain after Surgery: A Cochrane Systematic Review and Meta-Analysis." *Br J Anaesth* 111 (2013): 711-720.
13. Tulgar, Serkan, Onur Selvi, Ozgur Senturk, and Talat E Serifsoy, et al. "Ultrasound-Guided Erector Spinae Plane Block: Indications, Complications, and Effects on Acute and Chronic Pain Based on a Single-Center Experience." *Cureus* 11 (2019).
14. Chazapis, Maria, Navkiran Kaur, and Damon Kamming. "Improving the Peri-Operative Care of Patients by Instituting A'block Room'for Regional Anaesthesia." *BMJ Open Qual* 3 (2014).
15. Eappen, Sunil, Hugh Flanagan, Rachel Lithman, and Neil Bhattacharyya. "The Addition of a Regional Block Team to the Orthopedic Operating Rooms Does Not Improve Anesthesia-Controlled Times and Turnover Time in the Setting of Long Turnover Times." *J Clin Anesth* 19 (2007): 85-91.
16. Macachor, Joselo D, Chandra M Kumar, Edwin Seet, and Leng Zoo Tan. "Peripheral Nerve Blocks in a Regional Anesthesia Block Area: An Economic Model." *Reg Anesth Pain Med* 43 (2018): 448-449.

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