



Michelle Lim MD, Cynthia Khoo MD PhD, Jean-Louis Horn MD, Jan Boublik MD PhD
Department of Anesthesiology Perioperative and Pain Medicine, Stanford Hospital, Palo Alto, CA

50th Annual Regional Anesthesiology and Acute Pain Medicine Meeting



Introduction

- Wrong site procedures occur at a rate of 0.5-5.1 per 10,000 blocks
 - Our practice reveals a rate of 0.003 per 10,000
- Recent near misses and a wrong sided nerve block highlighted gaps in our current time out process
- We conducted a quality improvement initiative to enhance our time out process

Our goal is to standardize the time out procedure, improve communication amongst multidisciplinary teams, and increase adherence to best practices for patient safety

Current guidelines

- Guidelines from The Joint Commission Universal Protocol, Anesthesia Patient Safety Foundation, ASRA Task Force Pre-block Safety Checklist, and the World Health Organization Surgical Safety Checklist were reviewed
- 3 core principles were identified
 - pre-procedure verification
 - site marking
 - time out
- A review of practices at other institutions demonstrated clear patient markings and RN involvement

A review of the time out process across institutions (n=9)*		
	Yes	No
Printed Consent	6	3
Anesthesia marks patient	8	1
Surgeon marks patient	8	1
Nurse participation	7	2

Table 1. Comparison of time out process across different institutions. *programs surveyed included: Virginia Mason University, Massachusetts General Hospital, Duke, John Hopkins, Columbia, Baylor, Stanford, Mount Sinai, New York University

Intervention proposals

- Dual marking by the surgeon and regional team on block site
- Visual confirmation with colored bracelets on the correct side corresponding to block laterality
- Inclusion of RN in time out
- Printed time out forms
- Patient led and directed time out

Weekly RCA meetings identified the root cause of the wrong sided block and assessed the feasibility of above proposals with feedback from nursing, anesthesia, and QI leadership

Improving our time out process

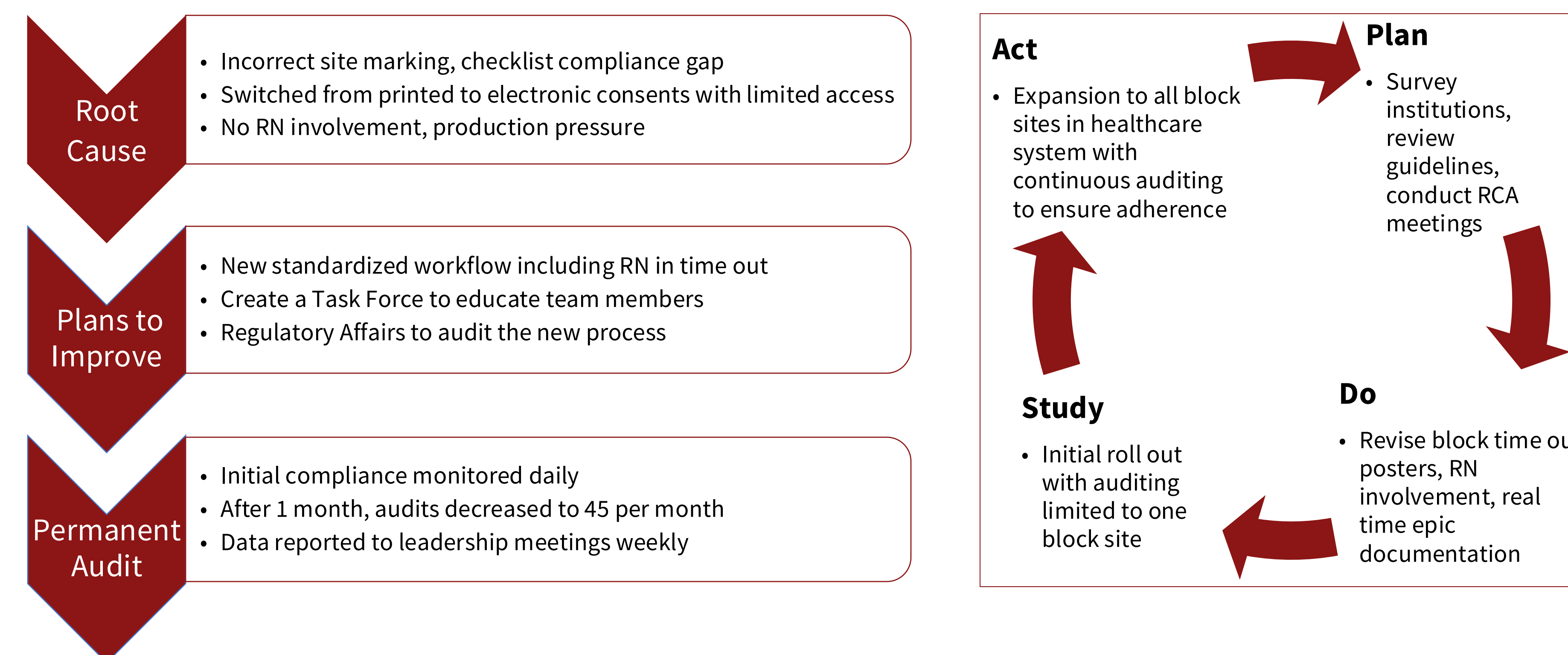


Figure 1. Quality improvement initiatives [A] Root Cause Analysis, [B] Plan Do Study Act (PDSA) cycle

Revised time out posters



Stanford
MEDICINE

Health Care

REGIONAL BLOCK TIME-OUT

PRE-PROCEDURE CHECKLIST

- Confirm **correct** patient and surgical/regional **consent** signed
- Confirm **NPO status**
- Review **allergies, coagulation** status, and pregnancy status (if applicable)
- Review and assess pre-existing neuropathy

- Discuss **risks, benefits, and alternatives** of regional procedure
- Connect ASA standard **monitors** and O2
- Confirm necessary **drugs and equipment** available
- Mark block site with "BLOCK"**

STOP

TIME OUT

STOP

- 1. Individual performing block initiates** time out **immediately prior to procedure**
- All team member **introductions with name and role**
- Consent is visible** and attended by APP, RN, or CertAT with **attending present**
- Identify** patient by confirming full name and DOB/MR/N **with two patient identifiers**
- Confirm** surgical **procedure using surgical/regional anesthesia consent**
- Confirm** block site **marked "BLOCK" by regional team and visible**
- Confirm** pre-procedure **checklist complete** without any unresolved issues
- Ask, "Any other concerns?"

ADDITIONAL BLOCK

For additional blocks in a **different surgical site** or **patient position**, repeat Time Out "step 5-8"

Figure 2. Revised regional block time out posters posted above every block bay across all perioperative areas. Highlight showing changes in process

Results

- A standard workflow was created
 - Updated regional block time out posters
 - Preoperative RN included in the time out
 - EMR time out checklist for real time documentation
- Zero near misses or wrong sided nerve blocks since implementation

Compliance Data (11/4/24-1/6/25)		
Question	Compliance	Number of responses
All required components of the time out completed.	96.0%	3
All team members are attentive and activity has ceased for the duration of the time out.	96.0%	3
All team members introduce themselves with name and role.*	98.0%	3
Individual leading the time out verbally confirmed the procedure based on the consent.	99.4%	3
Individual leading the time out verbally confirmed the site marked as "Block."**	97.0%	3
Individual leading the time out verbally confirms patient identity using 2 identifiers.	100.0%	3
Time out documented in epic appropriately.	97.9%	3

Table 2. Current auditing compliance data. *This question was added after the audit started based on the Universal Protocol policy (page 4, section D3) under Final Verification Time out, which requires team member introductions with name and role. **There was a discussion if epidurals should be marked and some audits marked this block as n/a, which resulted in these blocks not included in the total number of audits. Education and clarification were provided regarding site marking for epidurals and the option n/a has been removed.

Conclusions

Implementing a standardized, enhanced time out process for regional blocks across our institution is essential for ensuring patient safety. This effort is supported by strict compliance, continuous auditing, and ongoing education.

References

1. Deutsch ES, Yanosh R, Martin DE, Jans JH, Arnold TV, Hunt CM. Wrong-site nerve blocks: A systematic literature review to guide principles for prevention. *Journal of Clinical Anesthesia*. 2018;46:101-111. doi:<https://doi.org/10.1016/j.jclinane.2017.12.008>
2. The Joint Commission. Universal Protocol. jointcommission.org. Published 2020. <https://www.jointcommission.org/standards/universal-protocol/>
3. Blomberg A, Loskove J, Howard C, Sacks D. A Novel Approach to Eliminating Wrong-Site Blocks. Anesthesia Patient Safety Foundation. Published October 2021. Accessed December 16, 2024. <https://www.apsf.org/article/a-novel-approach-to-eliminating-wrong-site-blocks>
4. Mulroy MF, Weller RS, Liguori GA. A Checklist for Performing Regional Nerve Blocks. *Regional Anesthesia and Pain Medicine*. 2014;39(3):195-199. doi:<https://doi.org/10.1016/j.rapm.2014.09.005>
5. World Health Organisation. WHO Surgical Safety Checklist. World Health Organisation. Published 2009. Accessed December 15, 2024. <https://www.who.int/teams/integrated-health-services/patient-safety/research/safe-surgery/tool-and-resources>