

Feel the Warmth, Embrace the Comfort: Prevention of Inadvertent Hypothermia by Active Warming in PeriAnesthesia

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Background

Perianesthesia hypothermia remains a clinical challenge, associated with increased morbidity and mortality. In 2023, the Salinas Valley Health Perioperative Department didn't have a pathway for inadvertent hypothermia prevention. A Perioperative Clinical Practice Council (PCPC) referral in April 2023 revealed that current practice was for corrective measures when the patient is hypothermic (below 36 degrees C).

Objectives of Project

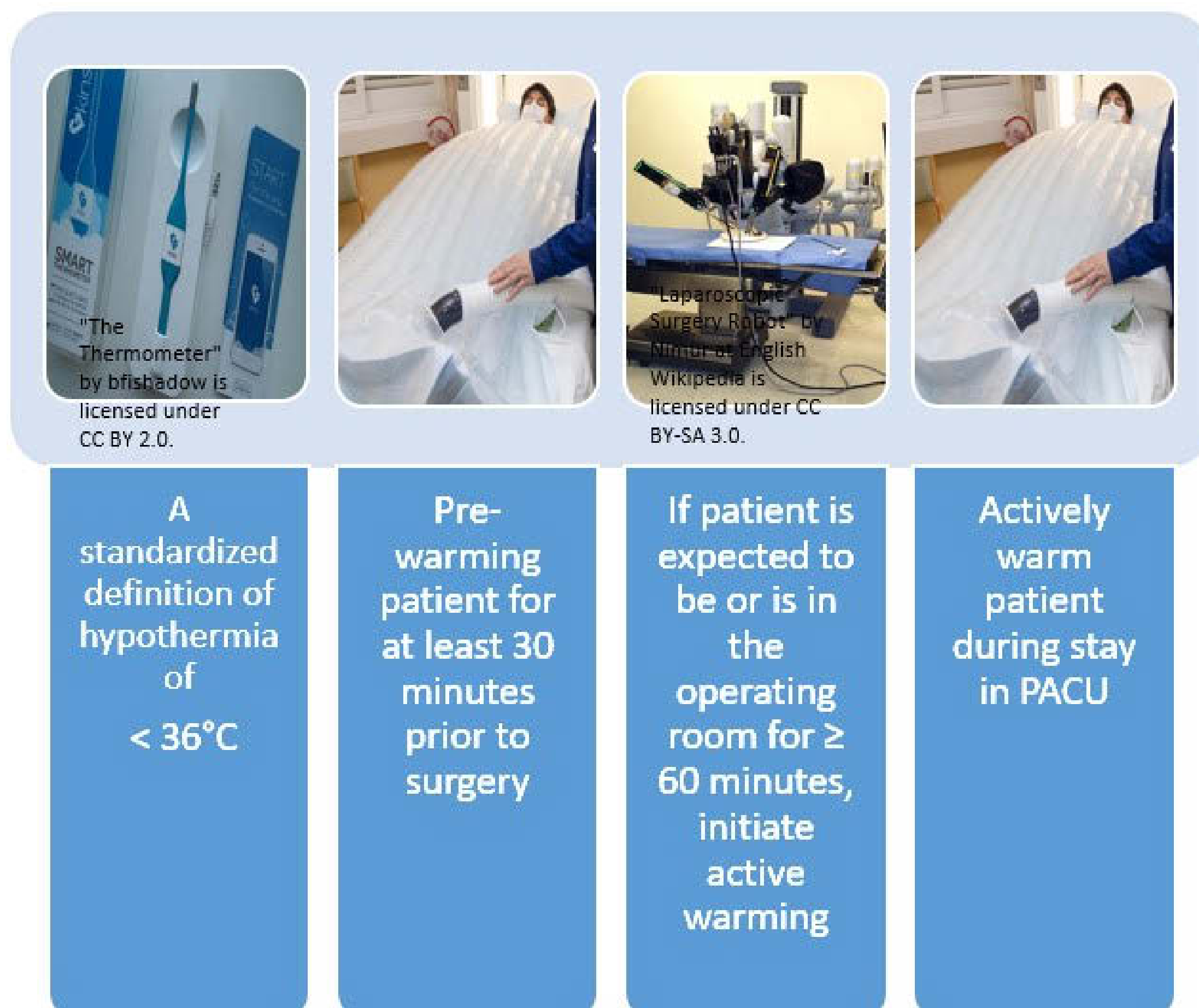
To implement a standardized process to prevent inadvertent hypothermia in perianesthesia patients.

Process of Implementation

A literature search identified six systematic reviews, three clinical practice guidelines, six randomized control trials, and three other studies evaluating the effectiveness of active warming in preventing perianesthesia hypothermia and analyzed for outcomes: temperature maintenance, infection, bleeding, and length of stay. These indicated strong evidence to implement a warming protocol. Active warming methods are more effective than passive methods (Su, 2018). Forced-air warming and circulating-water devices are the most effective methods. (Su, 2018). The recommendation is to use multiple passive insulation methods. (Sari, et al. 2021; ASPAN, 2023; AORN, 2019; NICE, 2016). It's also indicated to warm the patient with one or more active warming methods during all phases of perianesthesia(ASPAN, 2023; AORN, 2019; NICE, 2016). Sources recommend active warming for 30 minutes pre-operatively. (Madrid,et al., 2016).

The protocol proposed in June 2023 : Standardized definition of hypothermia: < 36 C Pre-warm patient for at least 30 minutes preoperatively; If patient is in the OR for ≥ 60 minutes, initiate active warming; Actively warm PACU patients. The exclusions were: patient refusal, hyperthermia, clinical contraindications. After education, information dissemination and adding pre-op EHR documentation, the protocol went live October 2023 and was a standard of care by 2024.

ELEMENTS OF THE WARMING PROTOCOL:



Statement of Successful Practice

Literature review showed active warming is effective for preventing perioperative hypothermia which can lower infection rates, decrease blood loss, and potentially shorten hospital stays. Active warming can improve comfort and reduce postanesthetic shivering risk. Forced air warming was increasingly used in the PACU by 2024. Pre-op and intraoperative warming was the standard care for non-excluded patients.

Results

After annual competency validations, 100% of PACU, OPS, and Surgery RNs received education on the prevention of inadvertent hypothermia and the new active warming guidelines. No marked difference in the rate of hypothermia upon PACU admission was found when comparing hypothermia incidence pre- and post-implementation of the initiative. The education included accurate and timely assessment and documentation of patient temperatures; thus, this finding may have been due to capturing more data and because staff were more confident about intervening using forced air warming after the education. Findings from chart audits conducted before the perioperative warming initiative was implemented (Figures 1 and 2) and after the initiative (Figures 3 and 4) revealed that forced air warming was increasingly used in the PACU after the initiative was implemented compared to before implementation. Pre-operative and intraoperative warming was noted as the standard of care for patients meeting criteria, which was a difference compared to before implementation of the protocol.

Figure 1

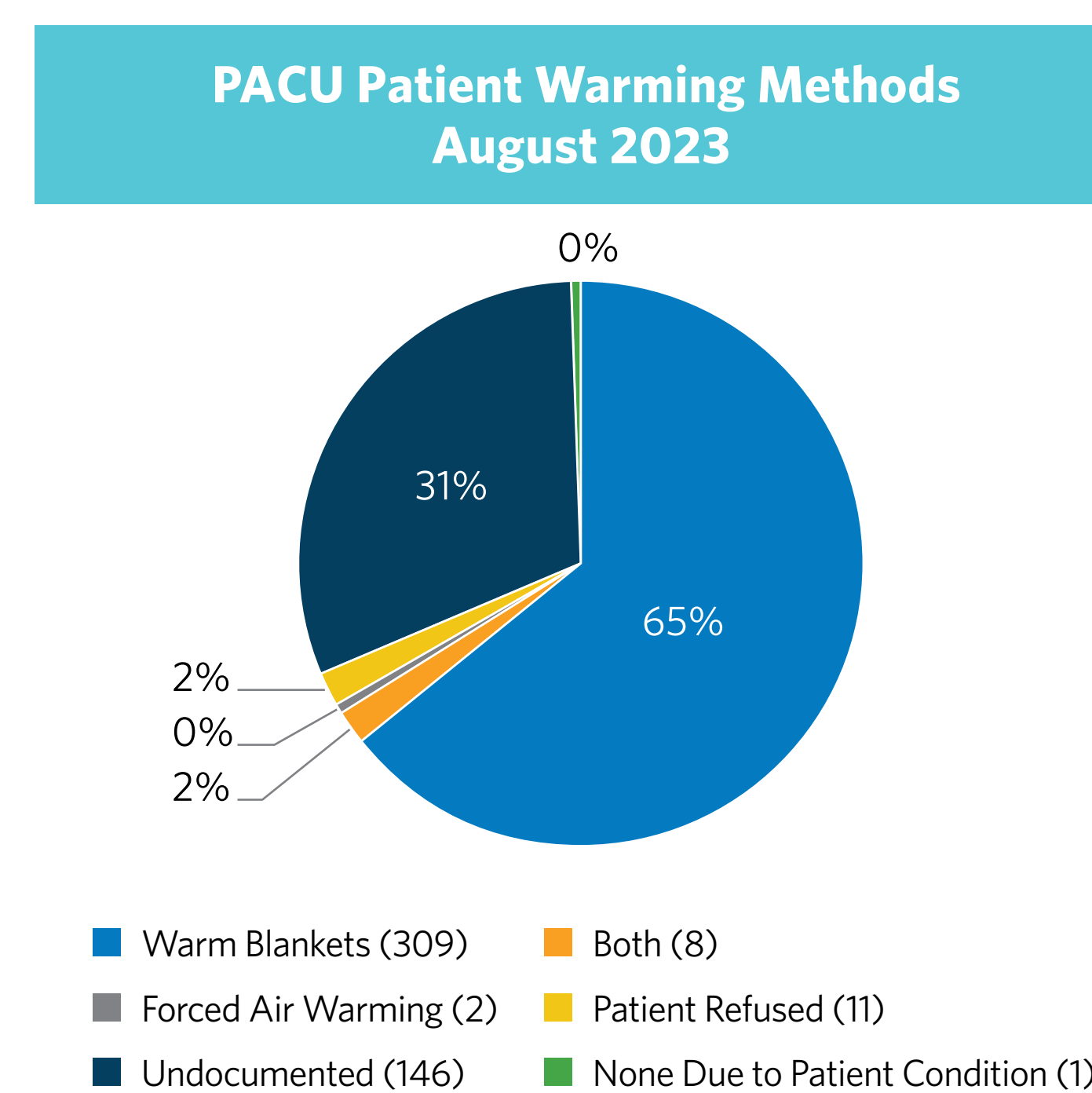


Figure 2

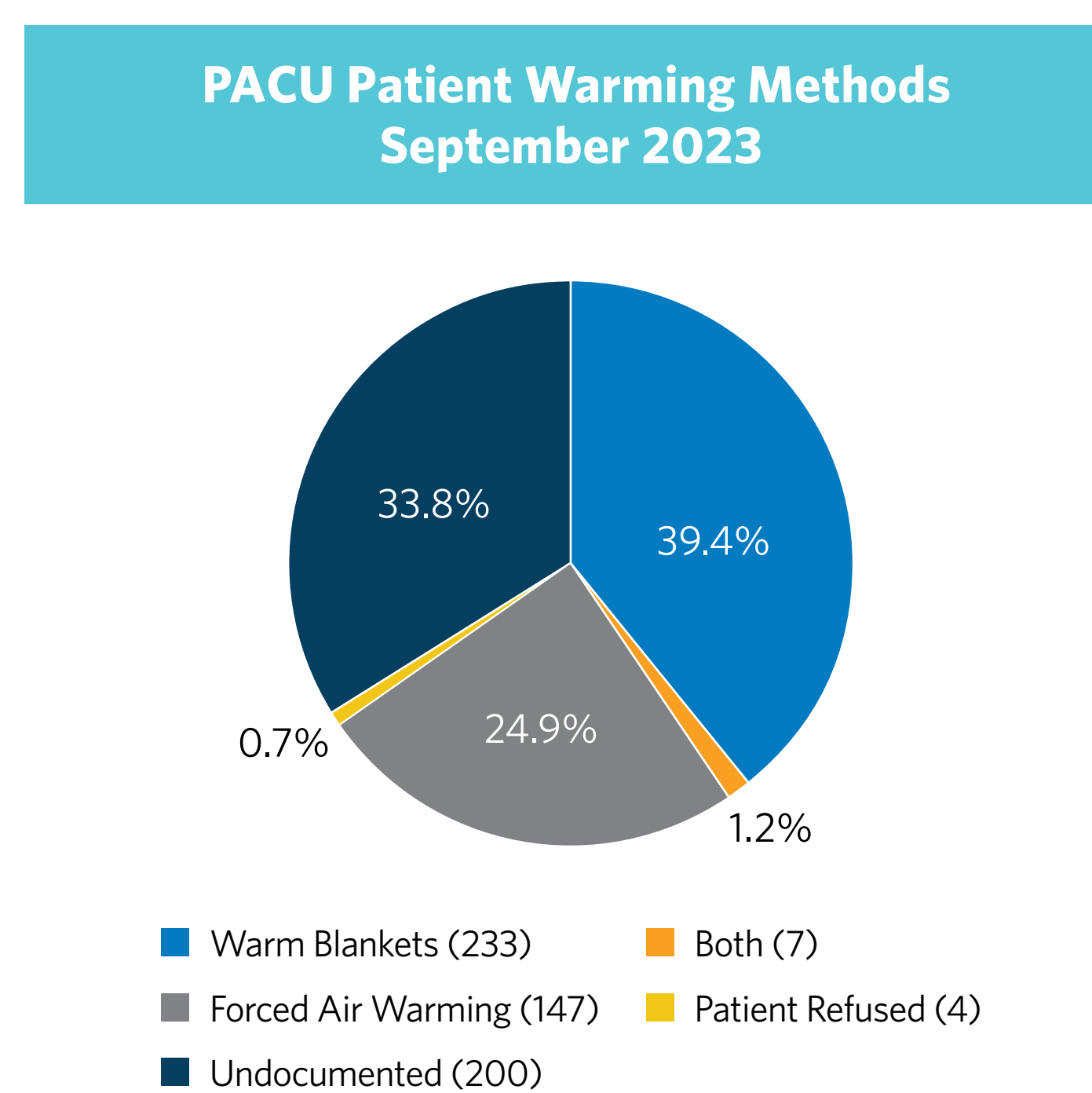


Figure 3

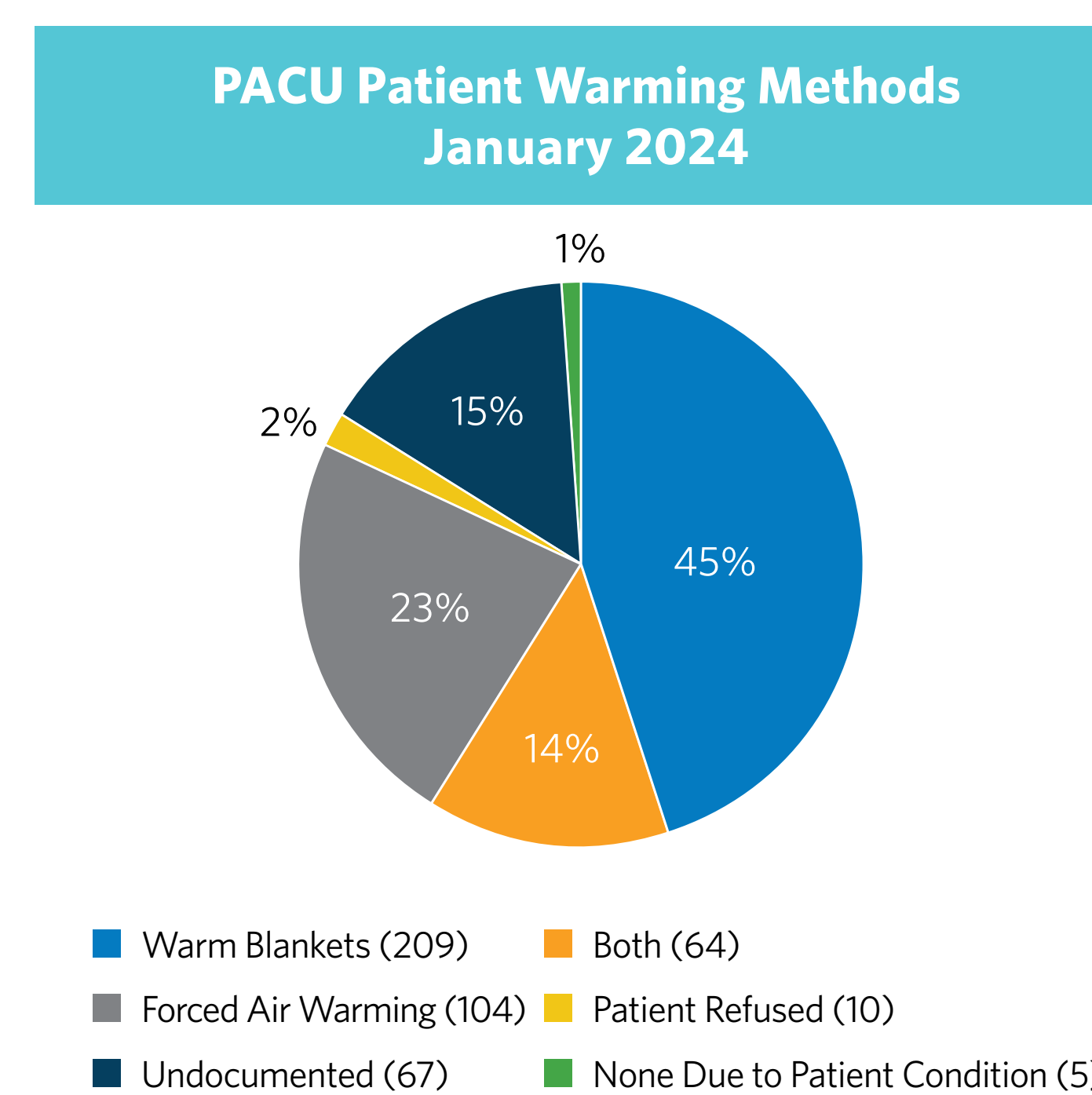
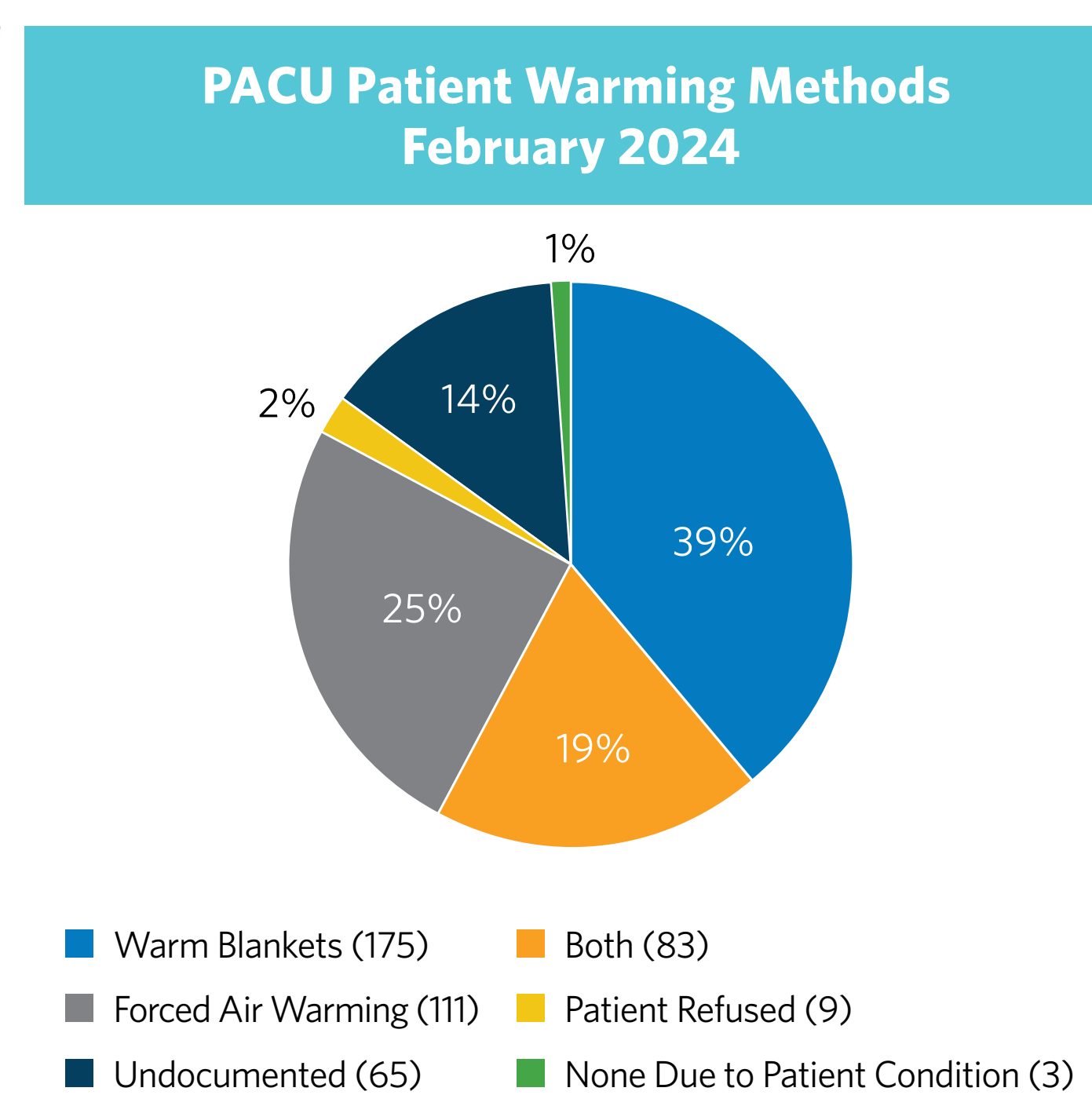


Figure 4



Implications for Advancing the Practice of Perianesthesia Nursing

Active warming should be standard care in perianesthesia to prevent hypothermia and associated complications. By proactively maintaining normothermia, healthcare providers can improve patient outcomes and reduce the overall burden of perianesthesia care. The PCPC was able to use the results of the first EBP cohort efforts to implement a practice recommended by both AORN and ASPAN. By creating an evidence-based protocol and educating clinical RNs about the impact of preventing inadvertent hypothermia in our patients, we were able to implement an active warming protocol that impacts patient care and clinical outcomes.



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