# Using Aromatherapy To Reduce Post-op Nausea & Vomiting in Day Surgery


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ADVOCATE HEALTH

## Background

- Day surgery units provides perioperative care to patients who expect same-day discharge.
- About **30%** of surgical patients experience post-operative nausea & vomiting (PONV); higher % if risk factors (Amirshani et al., 2020).
- Surgical teams routinely monitor and use antiemetic medications and calming strategies to manage PONV to limit discomfort, negative patient experiences, and prolonged stays.
- Evidence suggests that aromatherapy offers some benefit to reduce PONV when used as an adjunct to usual care but evidence is weak, (Elvir-Lazo et al., 2020; Hines et al.,2018;Trandel-Korenchuk et al., 2021; Wang et al. 2024)

## Clinical Question:

**Do day surgery patients benefit by the use of aromatherapy to reduce PONV when added to usual perioperative care?**

**P** **Population**
- **Adult day surgery patients**

**I** **Intervention**
- **Aromatherapy** (lavender/peppermint)

**C** **Compared with**
- **Standard PONV prophylaxis**

**O** **Outcome**
- **Incidence and Severity of PONV**

**T** **Time**
- **Three (3) months trial (Q3, 2023)**

**GOAL:** The Day Surgery nurses collaborated with the anesthesia and surgical teams to provide patients with access to aromatherapy during their postoperative recovery care as an adjunct to the standard PONV prevention program.

## Implementation of Aromatherapy

- Standard PONV Prevention Program:
  - System policy for use of aromatherapy
  - Electronic PONV risk assessment tool based history of PONV, female (at birth), nonsmoker, age <50 years, no prior surgery.
  - Risks trigger best practice alert (BPA) to Anesthesiologist for individualized treatment
  - Preop orderset with anti-emetic therapy
- Aromatherapy Information Sheet was distributed to patients during admission with offer for use as an adjunct to usual care for interested patients.

**SCAN Code:**
**Poster & Aromatherapy Information Sheet (see additional files)**

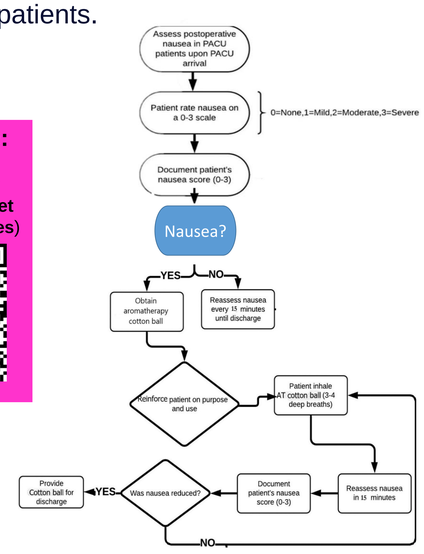


**Figure 1**. Procedure for delivering aromatherapy. Procedure adapted from Trandel-Korenchuk et al., 2022).

## Patient Characteristics:

| Characteristics N=716 | Percentage % | Average (SD) Range |
|---|---|---|
| Age (years) | | 54.1 (18); 18 – 95 |
| Sex – Female / Male | 50.4% / 49.6% | |
| Race: White<br>African American<br>Asian<br>Other/Unknown<br>Ethnicity: Hispanic | 63.4%<br>10.3%<br>5.7%<br>10.1%<br>9.5% | |
| Aromatherapy Interest?<br>**Yes** - No | **47%** / 48% | |
| PONV Risk Factors<br>Female<br>Nonsmoker<br>Age Under 50 yrs<br>History PONV<br>No prior surgery<br>Missing | <br>50%<br>65%<br>31%<br>15%<br>4%<br>10% | |

## Findings

Data collected from July thru September 2023.

| Peri-op Care N=716 | Percentage % | Average (SD) Range |
|---|---|---|
| Preop Antiemetic = No<br>Preop Antiemetic = Yes<br>Pepcid<br>Pepcid & Scopolamine | 43%<br>57%<br>42%<br>15% | |
| Anesthesia - General<br>MAC<br>Spinal | 84%<br>15%<br>0.1% | |
| Surgery Duration (minutes) | | 73.6 (50.1); 10-321) |
| OR Antiemetic = No<br>OR Antiemetic = Yes<br>Zofran, Decadron, Reglan | 14%<br>82% | |
| OR Opioid | 87% | |

- Most (83%) patients did not report PONV; Some (12%) reported mild symptoms (blue) with fewer than 5% reported mod/severe symptoms (green). Figure 2

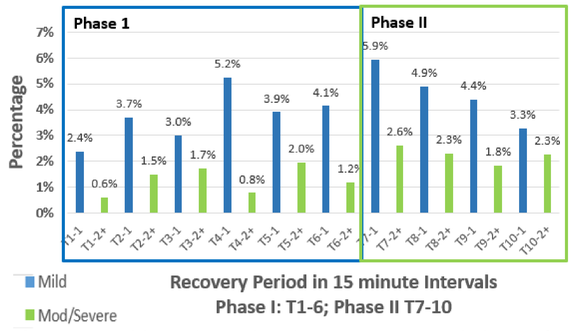


**Figure 2**. Incidence/Severity of PONV over 15 min intervals.

## Aromatherapy Use:

- Aromatherapy was used by 21 patients,
- All had (1+) PONV risks and received anti-emetic during surgery or in recovery.

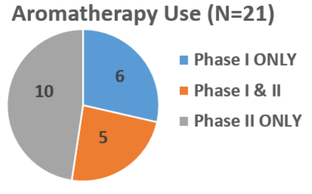


**Figure 3. Aromatherapy Use in Phase I & II**.

- Phase I users (n=11) started aromatherapy an average of 43 minutes after PACU arrival; (5) continued use in Phase II & (3) for home .
- Phase II users (n=10) started use within 9 minutes after arrival with use at home (n=3).

## Discussion

- Patients received Aromatherapy Patient Information Sheet prior to surgery to facilitate use during recovery; Only 47% of preoperative patients were interested.
- Some (17%) of patients reported any PONV but fewer than 5% reported moderate/severe symptoms, well below the incidence rate (30%) reported in literature.
- Aromatherapy was used by a small number of patients with limited additional benefit over existing care.
- Staff provided anecdotal reasons for limited use:
  - Staff are used to giving anti-emetic medications with prompt symptom reduction (vs. offering mew therapy with unknown response)
  - Aromatherapy takes time to set up and teach
  - Staff often use alcohol wipes for “aromatherapy” therapy (not tracked during the project)

**Limitations:** Nurses focused on patient care with some missing data collection especially when PONV is absent.

## Conclusions /Implications for Practice

- The PONV prophylaxis program at the hospital was effective with incidence below expected rate.
- Aromatherapy was used by a small number of patients who had PONV symptoms. While feasible, the staff and the patients may need additional strategies to increase engagement and use.

## References


Amirshahi, M. et. al. (2020). Prevalence of postoperative nausea and vomiting: A systematic review and meta-analysis. *Saudi Journal of Anesthesia, 14*(1), 48-56. https://doi.org/10.4103/sja.SJA_401_19

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