

The Economics of Aromatherapy: Elequil Aromatabs Reduce Costs and Improve Care Environment

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Why Elequil Aromatabs Aromatherapy?

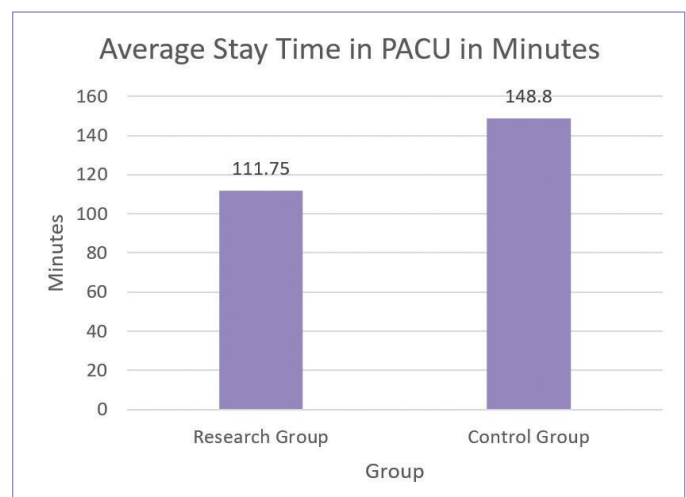
Effective and easy-to-use non-pharmacological solutions are frequently sought out by patients as well as healthcare providers. Innovative, alternative, low-cost treatment options for improving pain management are becoming increasingly important to address Joint Commission mandates and satisfy patient requests. Similarly, there is a growing need for alternatives or adjuncts to standard medication regimens for patients experiencing nausea and vomiting.

Sometimes a healthcare provider is also a patient with first-hand experience. Having used aromatherapy as a patient and understanding how it works on olfactory nerves and amygdala, combined with a strong desire to translate personal experience into a clinical solution for other patients, I launched my search for an aromatherapy product for patients being cared for at Parkland Health.

Research showed Elequil Aromatabs® aromatherapy to be a good option. Elequil Aromatabs do not require a prescription, saving time and allowing patients to be helped quickly without having to wait for a doctor's order. Elequil is available in different aromas, including Lavender-Sandalwood to promote relaxation during pain and calm anxiousness, and Orange-Peppermint to soothe queasiness. In addition, Elequil does not interact with standard antiemetic medications and therefore can be used as an adjunct treatment.

Clinical Evaluation

Parkland Health, a safety-net county hospital located in Dallas, TX, conducted a clinical evaluation to measure the effects and benefits of Elequil Aromatabs aromatherapy (Beekley Medical®, Bristol, CT). Orange-Peppermint was selected for patients experiencing post-procedural nausea and vomiting, and Lavender-Sandalwood for patients with pain and anxiousness.



Reduction in PACU Stay Time with Elequil Aromatabs

Key Findings

- Antiemetic administration reduced by 13.6% for general anesthesia patients
- Antiemetic administration reduced by 100% for monitored anesthesia care (MAC) patients
- PACU time reduced by an average of approximately 35 minutes, resulting in an estimated average savings of \$2000 - \$3000 per patient
- Acute care and burn unit patients reduced pain scores by 37%
- Patient satisfaction scores for inpatients rose from 90-91% to 94-95%

If the patient feels the hospital cares for their well-being, that's huge. Integrating aromatherapy into patient care makes the patient feel we are going one step beyond what other hospitals do. It's important that facilities understand the value of the patient's voice.

Goals

The goals of the evaluation centered on determining if aromatherapy could:

- Reduce nausea and vomiting of post-operative surgical patients
- Reduce pain and anxiousness of post-operative surgical patients
- Reduce pain and anxiousness of patients in the burn unit
- Reduce the use of opioids and antiemetics

Methods

Two separate studies were conducted. The nausea and vomiting study was conducted November 2021 – January 2022 with 316 adult male and female participants from the main OR, Ambulatory Surgery Center (ASC), and Gastrointestinal (GI) Lab. There was a historical control group from the same time frame in the previous year to control for seasonal bias. An Orange-Peppermint Elequil Aromatab was placed on each patient's gown upon their arrival in PACU. The study focused on the first eight hours after surgery. Patients completed a survey before leaving the PACU.

The pain and anxiousness study was conducted March 2021 – October 2021 with 144 participants from the orthopedic, plastic surgery, general surgery, trauma, and burn units. Adult males and females participated in this study as well, and there was also a historical control group from the same time frame in the previous year. A Lavender-Sandalwood Elequil Aromatab was placed on each patient's gown in the PACU and kept on for the remainder of their hospital stay. Patients were surveyed 72 hours after their surgery or intervention.

Results

These studies showed Elequil Aromatabs to have numerous patient benefits: reduction in queasiness, better sleep, less aggression and agitation, reduced need for antiemetics and pain medications, and less time spent in the PACU. The use of Elequil also improved patient satisfaction scores.

Reduction in nausea and queasiness for post-op patients

- Reduction in second dose of antiemetic.
- PACU time reduced by an average of approximately 35 minutes.
- Patients went from Phase 1 to Phase 2 care more expeditiously, which is important because patients in Phase 1 are at higher risk for aspiration, bleeding, and other issues such as cardiac complications. Additionally, patients in Phase 1 require more one-on-one time from providers, and patients who are not nauseous or vomiting rest better and may have quicker recovery times.
- Reduced the need for medications, thereby reducing nursing time for medication administration and associated documentation.
- Expediting patient care improves workflow and frees up beds for more surgeries/procedures, which can increase hospital revenue.

Post-op patients slept better and were less aggressive and agitated

- Better sleep is important in recovery; anxiety causes muscles to tense which can increase pain around incision sites or areas where bones were broken.

Patients who are resting better are the best patients to have. It's an enormous benefit when a nurse is not having to spend as much time on patients to deal with their aggression, agitation and pain.

Burn patients asked for less pain medications

- Elequil helped reduce anxiousness and pain for burn patients. This was notable because procedures to scrub burn patients' skin are very painful, and these patients often reach their maximum allowed dose of pain medications.

Improved patient satisfaction scores

- Patients reported an improved experience, saying Elequil Aromatabs helped them feel comfortable and relax and made them feel like Parkland Health cared about them.

Elequil Aromatabs is an inexpensive way to show patients and staff there's a focus on care.

Financial Benefits

The clinical benefits of Elequil Aromatabs aromatherapy identified in these studies can be translated into financial benefits in several key areas.

Reduced PACU Time

The evaluation showed that PACU time was reduced by average of approximately 35 minutes per patient (148.8 minutes down to 111.75 minutes) for patients using Elequil Aromatabs. While the cost of Phase 1 PACU time at a given healthcare facility will vary depending on the resources consumed and the cost of those resources, estimates can be calculated. For the estimate provided here, a combination of individual surveys plus outside information was used, as described below.

Approximately 14 members of hospital leadership were surveyed to obtain cost information in the following areas:

- Managers/Directors: Staff costs
- Anesthesia Department: Staff costs
- Pharmacy: Medication costs
- Supply Lead: Supply costs
- Surgical Director: Physician/provider costs for surgical procedures
- Operations: Standard cost of space, equipment, laundry, electric, turnover time, etc.

Based on the data from the hospital leadership survey plus review of five outside articles,^{1,2,3,4,5} the cost of Phase 1 care was estimated to be between \$57 and \$85 per minute. This includes staff time and other direct and indirect costs for salaries, benefits, medication costs, equipment costs, depreciation, supplies, space, etc.

Using this cost per minute estimate, the 35-minute reduction in PACU time translates to an **average savings of approximately \$2000 - \$3000** for each patient who uses Elequil Aromatabs.

Lower Workplace Stress and Violence

Another benefit of Elequil Aromatabs aromatherapy was that patients were less agitated and aggressive. Since 2018, workplace violence incidents have gone up 60%.^{6,7,8} The annual cost of workplace violence has been estimated at \$1.8B.^{9,10,11} If patient-related violence is reduced, the associated costs will decline.

Improved Staff Retention

Having easier and calmer patients with less violence and safety events can bring about a more positive work environment and thereby improve staff retention. Staff turnover is costly: the average cost to educate and replace a nurse has been estimated at \$65K.^{12,13,14} Although it is an option, relying on traveling nurses to fill staffing gaps is expensive.

Using Elequil Aromatabs opens up the care team's ability to care for more patients and promotes an easier care environment. Nurses said patients are sleeping better and are not "cranky pants" anymore.

Patient Experience

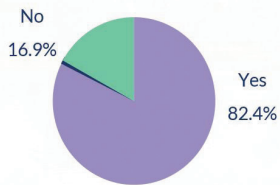
Patient experience was greatly enhanced by the use of Elequil Aromatabs, as shown in the following charts. Of particular note are the following findings:

- 82% of patients using Orange-Peppermint Elequil Aromatabs for queasiness said aromatherapy improved their experience.
- 92% of patients using Lavender-Sandalwood Elequil Aromatabs for pain and anxiousness said using aromatherapy made them feel ("some" or "a lot") like Parkland Health cared for them.

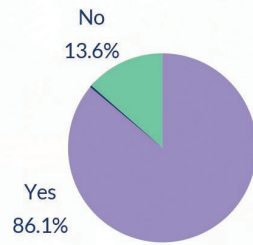
Patient Experience

All Participants

Did aromatherapy improve your experience today?

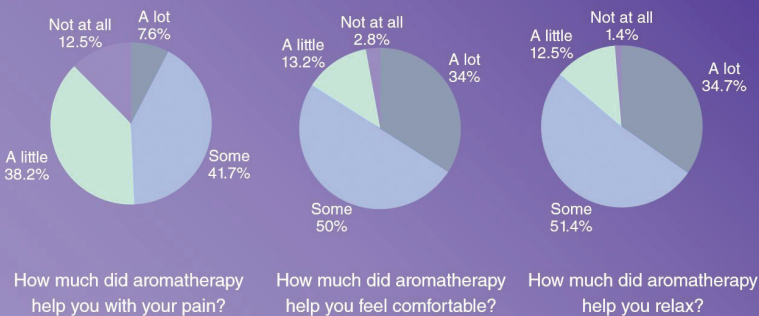


Would you be interested in using aromatherapy in the future?



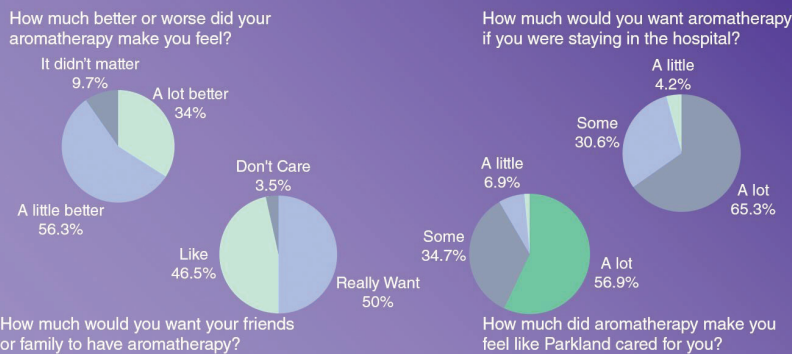
Patient Experience: Orange-Peppermint Elequil Aromatabs for Queasiness

Patient Responses: Adjunctive Aromatherapy Experimental Group



Patient Experience: Lavender-Sandalwood Elequil Aromatabs for Pain and Anxiousness

Patient Responses Adjunctive Aromatherapy Experimental Group



Patient Experience: Lavender-Sandalwood Elequil Aromatabs for Pain and Anxiousness

Why Are These Topics So Important?

The findings here are especially noteworthy in light of several factors:

- Post-procedural nausea and vomiting/post-operative nausea and vomiting (PPNV/PONV) is one of the most common complications after surgery and a significant cause of dissatisfaction among post-procedural patients.
- Medicare and Medicaid reimbursement is tied to patient satisfaction scores.^{15,16}
- The Joint Commission calls for reduced use of opioids.^{17,18}
- The high cost of staff turnover.

Conclusions

These studies have shown the benefits of aromatherapy as an alternative treatment and complement to traditional care. It is a cost-effective and proven best-practice management tool for multiple symptoms including pain and anxiousness.

The use of Elequil Aromatabs aromatherapy resulted in a reduction in medication administration, saving time and money and expediting workflow. Nursing staff noted that patients participating in this evaluation slept better and were less aggressive and agitated compared to those who did not participate. This is significant because reduced patient agitation can help reduce workplace violence and mitigate nurse burnout.

The clinical benefits of Elequil Aromatabs can be translated into potential cost savings by virtue of the reduction in staff time and reduced need for other resources such as medications, equipment, supplies, and space. **In this study, the average cost savings resulting from the use of Elequil Aromatabs was estimated to be in the range of \$2000 - 3000 per patient.**

In conclusion, aromatherapy is a simple, repeatable, low-cost intervention that can improve the well-being of patients, expedite patient care, and reduce hospital costs.

About the Author

J.D. Buchert, MSN, M.Ed., MS, RN, is Quality & Safety Manager - Perioperative Services, and Workforce Safety Manager - Quality & Safety Operations at Parkland Health in Dallas, Texas. J.D. is active in nursing organizations including AORN, TCORN, AONL, ASHRM, International Nurses Association, and the Institute for Healthcare Improvement. He sits on the Texas Nursing Legislation Action Coalition and was appointed to the governors committee on workplace violence. He is a former four-time president of the Dallas Chapter of AORN and the current president of the Texas Collaboration of Perioperative Nurses. J.D. has earned four Master's degrees in nursing and is working toward his DNP. His dedication to his profession has been locally, nationally, and internationally recognized. J.D. has been awarded the "Outstanding Achievement in Perioperative Nursing Research" at the AORN Global Expo where he also won two 1st place ribbons for his research and DEI posters.



About Parkland Health

Parkland Hospital first opened its doors to the citizens of Dallas, Texas, in 1894. Today, Parkland



Parkland

Health is an integrated health system comprised of a state-of-the-art acute care hospital and outpatient health centers located throughout Dallas County. It is the only burn center in North Texas verified by the American Burn Association and the American College of Surgeons Committee on Trauma to treat pediatric and adult patients and the second largest civilian burn center in the U.S. Parkland Health is also a Cancer Center of Excellence Accredited by the Commission on Cancer. In 2018, Parkland achieved the Pathway to Excellence designation by the American Nurses Credentialing Center (ANCC), a subsidiary of the American Nurses Association. Parkland employees are called by our mission of caring for Dallas County's most vulnerable patients. Our compassionate staff is committed to the health and well-being of every patient - treating the body, mind, and spirit.

Elequil Aromatabs® Aromatherapy

Elequil Aromatabs aromatherapy is a simple non-pharmacological intervention that uses 100% pure essential oils. Elequil Aromatabs aromatherapy has a unique controlled delivery system with easy hands-free application, adheres to the patient's gown or clothing, and allows minimum and maximum aroma exposure.



Lavender-Peppermint
Lasts up to 8 hours

Lavender-Peppermint promotes relaxation during pain, helps comfort and calm anxiousness, and soothes queasiness



Lavender
Lasts up to 8 hours

Lavender-Sandalwood
Lasts up to 24 hours

Lavender and Lavender-Sandalwood promote relaxation during pain, help comfort and calm anxiousness



Orange-Peppermint
Lasts up to 8 hours

Orange-Ginger
Lasts up to 8 hours

Orange-Peppermint and Orange-Ginger uplift and can soothe queasiness

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