Massage: An alternative approach to pain management

BY PAMELA HORNER, MSN, RN; SARA ABSHARI, MS; AND CAROL GROVE, MSN, RN, NEA-BC

Massage is identified as an effective measure for pain management and may be an opportunity to decrease pain intensity scores for medical and surgical patients. An important element of nursing care historically, massage has been found to have a positive impact on stress levels, well-being, inflammatory markers, and healing. As one healthcare organization made significant progress in its work over several years to lower the number of opioids prescribed in its ED, a 26-bed mixed medical and postsurgical unit struggled to decrease its number of opioid prescriptions. After careful consideration, reflection upon past clinical scenarios, and discussion among staff, the organization decided to explore alternative approaches to pain management on the unit and identified massage therapy as an option worth exploring. This article takes a look at how that organization implemented a quality improvement project to implement massage with selected patients on the unit and what the project accomplished: a 54% reduction in pain intensity scores after implementation.

Tried-and-true method
Considering the widespread opioid epidemic, pain management strategies are a significant concern in healthcare today. The Department of Health and Human Services in 2017 recommended that healthcare organizations find ways to advance evidence-based methods for pain control. The opioid epidemic was of particular local concern for this hospital as well. The county in which the hospital is located was one of the few counties in its state that saw an increase in opioid-related deaths over a 3-month period in 2019 compared with the same time frame in 2018. For patients on a medical-surgical unit at a semirural acute care hospital whose community has been directly impacted by the opioid epidemic, using massage to manage pain warrants consideration.

Massage has been integrated into nursing care from the beginning of the nursing profession. Florence Nightingale taught massage to her nursing students starting in 1860 and it was integrated into care in both World War I and World War II. But as nurses acquired a more comprehensive role in patient care in the 1950s, utilization of massage began to decrease and over time was virtually eliminated from nursing curricula. However, interest in the use of complementary and alternative medicine, including massage, has grown significantly in recent years. Nahin and colleagues evaluated the clinical trial evidence of various commonly used complementary and alternative methods, including massage, yoga, tai chi, acupuncture, and spinal manipulation. Some studies reviewed found a moderate improvement in pain intensity scores when using massage for low back pain. In a systematic review and meta-analysis, Kukimoto and colleagues found that massage may be beneficial in reducing post-op pain. Other studies have shown that massage promotes relaxation and sleep and improves pain management. Westman and Blaisdell confirmed in 2016 that massage can be targeted to specific areas depending on the patient's concerns and discomfort. In addition, administering massage may simultaneously lower nurses' stress levels as well.

Project beginnings
When the hospital initially worked to lower its opioid prescription numbers, the mixed medical and postsurgical unit aimed to improve comfort levels reported by both medical and post-op patients. Multiple avenues were implemented, such as ensuring that pain medications (including nonsteroidal anti-inflammatory drugs) were administered as prescribed, using warm blankets, and providing other comfort measures. However, results on reported pain intensity levels were inconsistent. No significant decrease in pain was identified by patients and no decrease in the use of opioids was recorded.

Following a review of the literature and group conference discussions, the Pain Management Work Group (PMWG) was established. The PMWG decided to move forward with a rapid-cycle improvement...
process to investigate the value of adding massage to the pain management alternatives. After exploring various options to provide massage to the patients, the unit leadership determined that the most logical approach for this experiment was to partner with established massage therapists affiliated with the hospital. The purpose of the project was to describe how massage therapy impacts a patient’s perception of pain, which was displayed by the reported decrease in their pain intensity score.

Methods
Inclusion and exclusion criteria were outlined to identify which patients would be appropriate for the pilot study. After seeking advice from physicians who routinely admit to the unit, the decision was made to include post-op patients as long as the incision site was not manipulated. We excluded patients receiving I.V. anticoagulation therapy, patients with acute skin disorders, and patients who required transmission-based precautions. Several tools were developed to aid in data collection, including a short self-history form, pre- and postmassage therapy survey forms measuring pain intensity levels, and a comment card that allowed patients to give feedback on the service.

The project
Massage therapy was offered in approximately 15-minute sessions between the hours of 1300 and 1500 each Friday for 4 weeks in the summer of 2017. Project leaders expected to have at least eight participants each Friday. A certified massage therapist from the hospital’s outpatient rehab unit provided the massage, with no fee charged to the patient.

On a short history form, patients were asked to identify the area of the body that they would prefer the therapist focus on as well as any pertinent health information to be reviewed by the therapist before the service. Pain intensity levels were recorded by patients both pre- and postmassage using a 0 to 10 visual analog scale. Additional feedback was obtained by using a comfort menu feedback card (see Comfort menu feedback card). The qualitative data were compiled based on nursing comments and patient comments on the patient survey. An Improvement Kata coach was also involved in the project. Improvement Kata is defined as a series of steps that provide a mindset for problem-solving, and Kata coaches help guide and support learners through the process.8 In this case, a Kata coach guided and coached the staff through the process to determine if the mini experiments were making a difference.

The unit faced some obstacles during the 4-week pilot, including a variation in the number of participants each week. After reviewing the data and discussing the obstacles with the patients, massage therapist, and nursing staff, the unit nursing staff concluded that Fridays at 1300 was not an ideal time. Many patients who wanted to participate in the pilot were discharged before 1300, and other patients felt it was interrupting lunch. The unit staff also found that many older females were uncomfortable with a male massage therapist and would decline the service upon meeting the therapist.

After these issues were discussed among unit leadership and the Kata coach, approval was obtained to engage in a second pilot. The time and day of services were changed to Mondays at 0900, which led to a larger number of participants. The decision was made to not change the therapist, but to ensure that patients were aware that the therapist was male when they were offered the service.

Results
Thirty-two patients participated in the 8-week quality improvement project. Both male and female patients participated. At the end of the study period, data were compiled. It showed a significant reduction in pain intensity scores after the patients received massage therapy. The average pain intensity score recorded by the patients before the service was 5.88 with a standard deviation of 2.61. After the massage, the average pain intensity score was 2.70 with a standard deviation of 2.41, resulting in a 54% reduction.
in pain scores overall. The observed reduction in pain scores was statistically significant ($P < .05$).

The qualitative data were compiled based on nursing comments and patient comments on the surveys. Patient comments illustrated improvements in all areas, with the most significant areas of impact reported being overall pain intensity level, emotional well-being, relaxation, and the ability to sleep.

Anecdotally, it was recognized during the second pilot study that patients who were being treated for respiratory disorders not only reported less pain, but they also had improved oxygenation and lung function. One patient was having difficulty being weaned from oxygen and her saturation levels would decrease to 80% while ambulating with 2 L of oxygen. After her massage, she was able to ambulate and maintain saturations between 90% and 95% with the same amount of oxygen. A second patient was having difficulty taking a deep breath post-op and could get her incentive spirometer to only 750 mL. After her massage, her incentive spirometer reading was 1,250 mL; the overall goal for this particular patient was 1,500 mL. Although these findings were interesting, this pilot did not monitor respiratory function as a process metric and thus could not prove those findings to be significant.

**Discussion**

The massage therapy pilot was shown to be effective when integrated into the medical/surgical setting and created overall positive results. Massage therapy improved patients’ ability to deal with the challenging physical and psychological aspects of their health condition during their hospitalization. The pilot also demonstrated direct correlations with pain, relaxation, sleep, emotions, recovery, and the healing process, as also noted by Westman and Blaisdell.1 Massage therapy in the inpatient setting offers a great opportunity for others looking for alternatives for pain control.

**Limitations**

Every attempt was made during the pilot project to include all patients who desired or would benefit from massage therapy to reduce the pain they were experiencing, but unfortunately time did not allow. The director from the outpatient rehab center graciously allowed her massage therapist to spend 4 hours per week on the unit. The unit was limited to choose 1 day per week for a 4-hour block of time on the unit; the days chosen followed the heaviest surgical days.

Patients who were able to participate were given a 15-minute time slot in the 4-hour block of time allowed. Every attempt was made to stay on time and ensure that everyone on the list could participate, but many patients were discharged before their scheduled time block or needed to go off the unit for testing. Being locked into a specific day of the week or certain time of the day limited participation.

**Implications for nursing practice**

Initial positive quality results are being used to support further use of massage. Moving forward, our plan is to implement a massage program that is available throughout the organization at times that are convenient for patients. However, financial challenges have led the team to look at innovative ways to expand services to the patients. Next steps include training staff to hold a dual role as a licensed massage therapist and certified nursing assistant. The unit manager has proposed and requested funding for training the unit mobility aide through an accelerated licensed massage therapy school, and the aide will then provide massage therapy as needed.

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At Meritus Medical Center in Hagerstown, Md., Pamela S. Horner is a clinical nurse manager, Carol Grove is the service line administrative director for Women’s and Children’s Service Line and director of clinical education, and Sara Abshari is a manager of operations improvement. The authors have disclosed no financial relationships related to this article.

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