

# Nursing Music Protocol and Postoperative Pain

■ ■ ■ *Michael J. Poulsen, DNP, RN, FNP-C,  
and Jeffrey Coto, DNP, MS, RN, CNS, CCRN*

## ■ ABSTRACT:

Pain has always been a major concern for patients and nurses during the postoperative period. Therapies, medicines, and protocols have been developed to improve pain and anxiety but have undesirable risks to the patient. Complementary and alternative medicine therapies have been studied but have not been applied as regular protocols in the hospital setting. Music is one type of complementary and alternative medicine therapy that has been reported to have favorable results on reducing postoperative pain, anxiety, and opioid usage. However, music lacks a protocol that nurses can implement during the perioperative process. This paper is an in-depth literature review assessing a best practice recommendation and protocol that establishes a consensus in the use of music therapy. The results suggest that music therapy may consist of calming, soft tones of 60-80 beats per minute for at least 15-30 minutes at least twice daily during the pre- and postoperative periods. It is suggested that music only be used in conjunction with standards of care and not as the primary intervention of pain or anxiety. This evidence suggests that proper use of music therapy can significantly reduce surgical pain. Implementing these protocols and allowing the freedom of nursing staff to use them may lead to greater reductions in surgical pain and anxiety and a reduction in opioid use.

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Postoperative pain management is a complex process that requires a multidisciplinary approach for adequate care. Nurses play a pivotal role in this multidisciplinary approach because they are the first line in assessment and decision making when it comes to differentiating the pain and potential relief (Crowe et al., 2008). According to Hole, Hirsch, Ball, and Meads (2015), more than 51 million operative procedures are completed annually in the United States. Approximately 50%-75% of this patient population reported moderate to severe pain during their recovery process (Singh, 2015). Inadequate pain control leads to severe pain and can increase risk for atelectasis, impaired respiratory function, anxiety, and a prolonged stress response (Crowe et al., 2008). These complications can lead to extended length of stay, surgical failure, and immunosuppression as a result of prolonged stress on the body (Economidou, Klimi, Vivilaki, & Lykeridou, 2012).

Pain control is the focal point of the recovery process, allowing patients to participate in physical and occupational therapies, increase participation with the rehabilitation program, and improve function. Although this can be accomplished using opioid medications alone, adverse events such as central nervous

*From the Valparaiso University  
College of Nursing and Health  
Professions, Valparaiso, Indiana.*

*Address correspondence to Michael J.  
Poulsen, DNP, RN, FNP-C, 1700 Chapel  
Dr., Valparaiso, IN 46383. E-mail:  
[michael.poulsen@valpo.edu](mailto:michael.poulsen@valpo.edu)*

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system depression, confusion, and abuse potential are major concerns (Cole & LoBiondo-Wood, 2014). Falling, constipation, and urinary retention are other potential side effects for patients on opioid medications. These adverse effects can lead to injury, infection, and increased length of stay.

Complementary and alternative medicine (CAM) therapies, especially music, have been found to have the ability to help reduce pain and anxiety when used in combination with opioid medications. Music has also been linked to decrease usage of opioid medications in the postoperative period. Music is a noninvasive, well tolerated, and inexpensive intervention that nursing staff and patients can administer without provider oversight (Hole et al., 2015). Although this topic has been extensively researched, a guideline to help nursing staff appropriately use this in practice has yet to be established.

### Objectives

The objectives for this literature review were to assess the quality of current evidence regarding use of music in nursing practice throughout the perioperative process and develop a protocol for medical institutions and nurses to follow.

## METHODS

### Design and Data Sources

This is an evidence-based practice literature review. An extensive review of literature was completed using CINAHL, MEDLINE, Cochrane Library, and Joanna Briggs Institute databases. Boolean operators used to narrow the search included “music,” “postoperative,” “pain,” and “surg\*” Search limiters, to narrow the search results, were publication years between 2006-2016, English language, and scholarly peer reviewed. The inclusion criteria for articles in this review included systematic reviews, meta-analysis, and best practice recommendations. This article focuses on the adult patient population older than age 18, any surgical intervention, and therapeutic music intervention used to reduce perioperative pain. Articles were excluded that exclusively used music for purposes other than pain reduction.

Fifty-two results were retrieved in CINAHL that matched the search terms and limiters. After reviewing the titles and abstracts, 1 article was critically appraised and used in this review. The same search terms and limiters were applied to MEDLINE with 77 resulting articles. Fifteen articles were identified that matched the inclusion criteria, and no new articles were selected for critical analysis. The Cochrane Library produced 1 result with these search terms.

Search limiters were expanded by using “music and pain; music and postoperative,” which produced 43 Cochrane reviews and 17 other reviews. Several of these articles were identified in previous searches and included in this review. Two articles were identified that met inclusion criteria and were critically appraised. The search completed in the Joanna Briggs Institute produced 240 results. The search limiter of surgical services was added to reduce the number of results to 96. Ten articles met the inclusion criteria, and 1 was critically appraised and used in this review (Appendix A).

### Review Methods

The Johns Hopkins Evidence-Based Practice (JHNEBP) tool was chosen to critically appraise the systematic reviews and best practice recommendations used in this literature review. The JHNEBP tool assesses the study design, results, and conclusions to ensure the presented information is accurate, valid, and reliable (Dearholt & Dang, 2012, pp. 238-240). Based on this review, a quality grade is given to help determine the strength of evidence.

The Joanna Briggs Institute (2009) created a best practice for health care professions on music intervention in hospital settings. The staff reviewed 4 systematic reviews from 2002-2008 to formulate the best practice for music intervention. They made several recommendations, including the following recommendations: Music used during the preprocedural period may reduce anxiety, therefore reducing the amount of sedative required to manage patient anxiety. Music may reduce pain related to surgery and procedures and amount of opioid medication when used as a complimentary approach with standard of care. Music is recommended to be flowing and nonlyrical with 60-80 beats per minute (BPM), low tones, minimal brass percussion. Most often the music intervention lasted 15-30 minutes during the pre- and postoperative periods. However, a range of 5-60 minutes was noted in the review. Several conclusions were quantified in this best practice recommendation. Patients reported a .9-unit reduction in pain intensity on a 10-point Likert Scale. Patients in the music groups were 70% more likely to have a 50% pain reduction. Music was found to help reduce morphine usage by 1 mg 2 hours after surgery. A 50% reduction in State-Trait Anxiety Index (STAI) was noted in the music groups. Various changes in physiologic measurements were also noted but were not significant in all reviewed articles. In summary, music should be used during the perioperative process; the music should be flowing and nonlyrical, with 60-80 BPM for at least 15-30 minutes continuously. The information provided in this best practice

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