

# Using Music to Reduce Anxiety Rates in Female Pre-Op Patients

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## Background

In female patients, preoperative anxiety is common and can increase postoperative pain, impair wound healing, and reduce surgery satisfaction.<sup>1</sup> Anxiety will be measured by patient interviews, assessment of blood pressure and heart rate, and is best measured before and after elective surgery.<sup>2</sup> Studies show music as an excellent form of treatment to reduce preop anxiety.<sup>3</sup> Moreover, female patients that listen to music prior to gynecological surgery have reduced anxiety levels compared to patients without music.<sup>3</sup>

## PICOT Question

In middle-aged female gynecologic pre-op patients how effective is listening to music compared to the pre-op patients with absence of music in reducing anxiety prior to elective surgery?

## Literature Search

**Database:** PubMed, CINAHL

**Key Terms:** female patient, music intervention, preoperative anxiety, preoperative anxiety outcomes

**Article Selection criteria:** Published between 2017-2022, articles with female population, English, aligns with research question

## Synthesis of Findings

- In a study of 135 female participants findings indicated music is associated with decreased anxiety and depression.<sup>1,4</sup>
- Conclusions and results found listening to music in the preoperative setting is cost friendly, effective, and has a high patient satisfaction rate.<sup>1,4</sup>
- Preoperative female patients undergoing pelvic reconstruction surgery randomized into a control group that listened to music before their operation showed significant improvement in state anxiety when compared to the non music listening group.<sup>3</sup>
- Results of 149 preoperative patients showed that 10.3% experience medium/high intensity of anxiety, while 29.3% and 11.4% were worried about the success and complications of the surgery which is associated with worse postoperative outcomes.<sup>5,4</sup>
- Patients that listen to pleasant music and sounds preoperatively help reduce heart rate and blood pressure bringing them comfort postoperatively.<sup>2,6</sup>

## Decision to Change

- Anxiety may increase blood pressure and heart rate resulting in an increase in bleeding which is not conducive to surgery.
- Higher anxiety levels can also lead to behavior changes such as increased aggression, nervousness and apprehension about the procedure. If the patient is aggressive it could pose a danger to themselves in addition to the others around. It is also difficult to be receptive to instructions when one is in an aggressive state.
- There is evidence to support music therapy produces a decrease in pre-op anxiety and hemodynamic parameters that led to an increase in patient satisfaction post op.



## Evaluation

- By the end of the 6 month implementation period, the use of music therapy in the preoperative setting will decrease anxiety levels in middle aged female gynecologic patients by 25%.
- We will be measuring blood pressure, heart rate, and respiratory rate pre and post intervention.
- In addition to measuring vital signs, the Hamilton Anxiety Scale will be used for evaluation of anxiety levels based on patients signs and symptoms.<sup>7</sup>

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## References

1. Xu, X., Sun, B. L., Huang, F., Chia, H., Sultana, R., Teo, A., & Tuner, B. S. (2021). The impact of music on patient satisfaction, anxiety, and depression in patients undergoing gynecologic surgery. *Journal of Perianesthesia Nursing*, 36(2), 122–127. <https://doi.org/10.1016/j.jopan.2020.08.014>
2. Kavak Akelma, F., Altunsoy, S., Arslan, M. T., & Ergil, J. (2020). Effect of favorite music on postoperative anxiety and pain. *Der Anaesthetist*, 69(3), 198–204. <https://doi.org/10.1007/s00101-020-00731-8>
3. Chen, Y. B., Barnes, H., Westbay, L., Wolff, B., Shannon, M., Adams, W., Acevedo-Alvarez, M., Mueller, E. R., & Pham, T. T. (2021). Preoperative music listening in pelvic reconstructive surgery: A randomized trial. *Female pelvic medicine & reconstructive surgery*, 27(8), 469–473. <https://doi.org/10.1097/SPV.0000000000001070>
4. Reynaud, D., Bouscaren, N., Lenclume, V., & Boukerrou, M. (2021). Comparing the effects of self-selected music versus predetermined music on patient anxiety prior to gynaecological surgery: The muanx randomized controlled trial. *Trials*, 22(1), 535. <https://doi.org/10.1186/s13063-021-05511-2>
5. Dziadzko, M., Mazard, T., Bonhomme, M., Raffin, M., Pradat, P., Forcione, J. M., Minjard, R., & Aubrun, F. (2022). Preoperative anxiety in the surgical transfer and waiting area: A cross-sectional mixed method study. *Journal of clinical medicine*, 11(9), 2668. <https://doi.org/10.3390/jcm11092668>
6. Fodde, P., Pellecchia, T., Puntoni M., Fracchia, E., Mazzella M. (2019). A randomized controlled study examining a novel binaural beat technique for treatment of preoperative anxiety in a group of women undergoing elective cesarean section. *Journal of Psychosomatic Obstetrics & Gynecology*. 42(2), 147-151. <https://doi.org.ezproxy.lib.uh.edu/10.1080/0167482X.2020.1751607>
7. Hamilton M. (1959). The assessment of anxiety states by rating. *British Journal of Medical Psychology*. 32(1), 50-55. <https://doi.org/10.1111/j.2044-8341.1959.tb00467.x>

