Peri-operative Music Therapy to Decrease Anxiety

Brenda Johnson RN, CPAN, CLIII
Shirley Raymond RN, BSN, CPAN, CLIII
Judy Goss RN, BSN, CLIII
Kim Latham RN, BSN, CCRN, CLII
Dianne Stapp RN, CLIII
Lisa Haubner RN
Joyce Burke RN, BES, CPAN

The Christ Hospital, Cincinnati, Ohio

Preoperatively patients frequently experience anxiety. The surgery itself is stressful but patients may worry about the outcomes of surgery or the possibility of complications. The literature supports the use of music to reduce stress and anxiety in select situations. However, no studies could be found that incorporated the use of music during the entire peri-operative period. The ambient noise of monitors, other patients, and staff in the SDS, OR, and PACU may elevate levels of anxiety. Also, studies conducted did not differentiate whether anxiety reduction was due to music or blocking environmental noise.

The purpose was to determine if music or noise-blocking headphones will decrease anxiety more than a control group in women undergoing SDS for gynecologic procedures. IRB approval was obtained. The women were approached for consent prior to pre-op medication and were randomized to usual care, music with headphones, or headphones only. Pre-operative anxiety was obtained using the Rapid Anxiety Assessment tool which rates anxiety on a scale of 0-10. This tool has been validated by Benotsch et al. (2000). Those in the music group selected new age, country or inspirational music. Both interventions were started in SDS prior to pre-operative medications. Music or headphones were continued throughout surgery and removed when Aldrete LOC = 2. Post-op anxiety was then rated.

The 119 women enrolled in the study had a mean age of 38.8 (sd=2.2) years. There was no significant difference by group (p>.05). The Figure 1. shows the change in anxiety from pre-op to post-op for subjects by group assignment. All groups experienced a reduction of about 2 units, but there was no statistically significant group difference (F=1.47 [2,116], p=.224). On closer examination, it was discovered that 12% reported “0” anxiety pre-op and 51% had very low levels of pre-op anxiety. Low anxiety (0-3) was equally represented among the 3 groups. The data were reanalyzed using only those with moderate to high levels of pre-op anxiety (≥4/10). All groups experienced a drop in anxiety from pre to post-operative status but the controls had the least (F= 3.5, p = .03, power = 0.63). Music had the most improvement followed by headphones.

Comments from subjects include:
“I like music and it helped me not to be nervous.”
“I would recommend this to anyone. I like it.”
Anxiety decreased after surgery, however half had low pre-op anxiety making it difficult to see the effect of music. In those with moderate to high levels of pre-op anxiety, music and noise blocking headphones significantly reduced anxiety with the greatest effect in the music group.

Music is a relatively inexpensive intervention, easy to administer, and noninvasive. It offers patients a coping strategy giving them a sense of control over an unfamiliar environment. The intentional use of music can be instrumental in transforming the environment of the PACU into a soothing and restful atmosphere to decrease anxiety and promote healing.

Figure 1

![Change in Anxiety Level](image1)

**Change in Anxiety Level**

- Group
- Control group
- Music
- Headphones only

**Level of Reported Anxiety**

- Pre-op Anxiety
- Post-op Anxiety

**Change in Anxiety**

Figure 2

![Change in Anxiety Score Over time in Those With Moderate or High Pre-op Anxiety (4-10/10)](image2)

**Change in Anxiety Score Over time in Those With Moderate or High Pre-op Anxiety (4-10/10)**

- Group
- Usual care
- Music
- Headphones

**Estimated Marginal Means**

1. T1 = Pre-op anxiety
2. T2 = Post-op Anxiety