Therapeutic Music Research Abstracts: Medical - Surgical

Music therapy: a nursing intervention for the control of pain and anxiety in the ICU: a review of the research literature.
AUTHORS: Henry LL
SOURCE: Dimens Crit Care Nurs 1995 Nov-Dec;14(6):295-304
CITATION IDS: PMID: 8631212 UI: 96232089
ABSTRACT:
Critical care patients experience both pain and anxiety related to theiracute illness or injury and some painful treatments. Research on music therapy has shown that it can decrease pain and anxiety in critical carepatients. This author suggests practice changes based on the body ofresearch, which investigated the use of music.

Healing the heart: integrating complementary therapies and healing practices into the care of cardiovascular patients.
Prog Cardiovasc Nurs 2002 Spring;17(2):73-80 (ISSN: 0889-7204)
Kreitzer MJ; Snyder M
Center for Spirituality and Healing, University of Minnesota, MMC 505, 420 Delaware Street SE, Minneapolis, MN 55455, USA.
Complementary therapies and healing practices have been found to reduce stress, anxiety, and lifestyle patterns known to contribute to cardiovascular disease. Promising therapies include imagery and hypnosis, meditation, yoga, tai chi, prayer, music, exercise, diet, and use of dietary supplements. Many of these complementary approaches to healing have been within the domain of nursing for centuries and can readily be integrated into the care of patients with cardiovascular disease. While individual complimentary modalities hold considerable merit, it is critical that the philosophy underlying these therapies--caring, holism, and harmony--also be understood and honored. [(c) 2002 CHF, Inc.].

Music listening as a nursing intervention: a symphony of practice.
Holist Nurs Pract 2002 Apr;16(3):70-7 (ISSN: 0887-9311)
McCaffrey R; Locsin RC
Christine E. Lynn College of Nursing, Florida Atlantic University, Boca Raton, Florida, USA.
This article presents the use of music listening as an effective, noninvasive intervention designed to assist nurses in creating a healing environment to promote health and well-being. Music has demonstrated effectiveness in reducing pain, decreasing anxiety, and increasing relaxation. In addition, music has been used as a process to distract persons from unpleasant sensations and empower them with the ability to heal from within. As nurses develop practice patterns that are evidence based, the use of music listening could become an integral nursing intervention. To develop a guide for using music listening as a nursing intervention, six principles of practice are identified: intent, authentic presence, wholeness, preference, entrainment, and situating the client

Music Therapy and patients on Respirators
Intensive Crit Care Nurs. 2003; 19(1):21-30 (ISSN: 0964-3397)
Almerud S; Petersson K Department of Anaesthesiology and Intensive Care, Central Hospital, SE-351 85 Växjö, Sweden. sofia.almerud@telia.com
The aim of this study was to ascertain whether music therapy had a measurable relaxing effect on patients who were temporarily on a respirator in an intensive care unit (ICU) and after completion of respirator treatment investigate those patients' experiences of the music therapy. In the study both quantitative and qualitative measurements were applied. Twenty patients were included using consecutive selection. It became apparent that the patients remembered very little of their time in ICU. The analysis of the quantitative data showed a significant fall in systolic and diastolic blood pressure during the music therapy session and a corresponding rise after cessation of treatment. All changes were found to be statistically significant. The conclusion was that intensive care nursing staff can beneficially apply music therapy as a non-pharmacological intervention.

Cultural Differences in Music Chosen for Pain Relief
Good M.[1]; Picot B.L.[2]; Salem S.G.[1]; Chin C-C.[3]; Picot S.F.[4]; Lane D.[5]
[1] Case Western Reserve University [2] University of North Carolina-Chapel Hill [3] Kaoshiung Medical University [4] University of Maryland, Baltimore [5] University Hospitals of Cleveland
Nurses use music therapeutically, but often assume that all patients will equally appreciate the same type of music. Cultural differences in music preferences are compared across five pain studies. Music preferences for pain relief are described as the most frequently chosen type of music for each culture. Findings indicate that in four studies musical choices were related to cultural background ($p = .002$ to .049). Although the majority in each group chose among the other types of music, Caucasians most frequently chose orchestra music, African Americans chose jazz, and Taiwanese chose harp music. For culturally congruent care, nurses should become aware of cultural differences in music preference and provide culturally specific selections amongst other music expected to have a therapeutic effect.

Music as an adjunct to antiemetic therapy.
Oncol Nurs Forum 1998 Oct;25(9):1551-6, Ezzone S; Baker C; Rosselet R; Terepka E
To test whether use of music as a diversional intervention during high-dose chemotherapy administration would affect perception of nausea and episodes of vomiting. SAMPLE: 39 patients undergoing bone marrow transplant. A total of 33 patients were included in the data analysis, with 17 in the control group and 16 in the music intervention group. METHODS: Patients were assigned randomly to a control group (usual antiemetic protocol) or the experimental group (usual antiemetic group plus music intervention during the 48 hours of high-dose cyclophosphamide administered as part of the preparative regimen). MAIN RESEARCH VARIABLES: Use of a music intervention, perception of nausea, and instances of vomiting. FINDINGS: Significant differences were found between group scores on a visual analog scale for nausea and number of episodes of vomiting, demonstrating that the experimental group experienced less nausea and fewer instances of vomiting. CONCLUSION: This study found that music is an effective adjunct to a pharmacologic antiemetic regimen for lessening nausea and vomiting, and this study merits further investigation through a larger multi-institutional effort. IMPLICATIONS FOR NURSING PRACTICE: Using music as a diversional adjunct intervention to antiemetic therapy is helpful in decreasing nausea and vomiting. The intervention can be initiated independently by nurses and individualized for each patient, leading to greater patient comfort and compliance with high-dose chemotherapy.

Music in hospitals
Lindsay S.
Br J Hosp Med. 1993 Dec 15-1994 Jan 18;50(11):660-2.
Council for Music in Hospitals, Hersham, Surrey.
Live music may be enjoyed by patients in hospitals, homes, hospices, training centres, stroke clubs and so on. This article discusses the provision of high quality concerts for those who--through age, illness or the nature of their disability--are precluded from attending a performance in the community and the benefits it brings them.
PMID: 8124548 [PubMed - indexed for MEDLINE]

Music as a therapeutic intervention for anxiety in patients receiving radiation therapy.
Smith M, Casey L, Johnson D, Gwede C, Riggin OZ.
Oncol Nurs Forum. 2001 Jun;28(5):855-62.
Geriatric Psychiatry Department, James A. Haley Veterans Affairs Medical Center, Tampa, USA.
PURPOSE/OBJECTIVES: To determine whether music moderates the level of anxiety that patients experience during radiation therapy. DESIGN: Experimental, longitudinal, random assignment to music or no music therapy. SETTING: Urban radiation oncology center in a Department of Veterans Affairs hospital in the southeastern United States. SAMPLE: Forty-two men (19 in the experimental group, 23 in the control group) aged 39-80 years (74% white, 12% African American, 12% Hispanic, and 2% other) receiving definitive external beam radiation therapy for pelvic or abdominal malignancies. METHODS: Patients in the experimental group listened to music of their choice provided via audiotapes and headphones before and during their simulation and daily treatments for the duration of the planned course

of therapy. The control group received standard care. The State-Trait Anxiety Inventory was administered initially to participants in both groups at the time of evaluation (time 1), post-simulation (time 2), at the end of the first week (time 3), at the end of the third week (time 4), and at the end of the fifth week or end of radiation therapy (time 5). MAIN RESEARCH VARIABLE: State anxiety. FINDINGS: No significant difference existed between the two groups to suggest that music moderated the level of anxiety during radiotherapy. However, post-hoc analyses identified changes and trends in state anxiety scores, suggesting a possible benefit of music therapy during radiotherapy. CONCLUSIONS: Despite a lack of group differences, early intervention with music therapy for patients with high levels of anxiety may be beneficial. IMPLICATIONS FOR NURSING PRACTICE: Nurses and other clinicians may administer state anxiety scales at the initial visit or prior to pretreatment radiation planning (simulation). Individuals who have high state anxiety scores may receive nursing interventions tailored to reduce anxiety during simulation and the early part of radiotherapy.

Effects of relaxation and music therapy on patients in a coronary care unit with presumptive acute myocardial infarction.
Guzzetta CE. Holistic Nursing Consultants, Washington, D.C.
Heart Lung. 1989 Nov;18(6):609-16.
The purpose of this study was to determine whether relaxation and music therapy were effective in reducing stress in patients in a coronary care unit admitted with the presumptive diagnosis of acute myocardial infarction. In this experimental study, 80 patients were randomly assigned to a relaxation, music therapy, or control group. The relaxation and music therapy groups participated in three sessions over a two-day period. Stress was evaluated by apical heart rates, peripheral temperatures, cardiac complications, and qualitative patient evaluative data. Data analysis revealed that lowering apical heart rates and raising peripheral temperatures were more successful in the relaxation and music therapy groups than in the control group. The incidence of cardiac complications was found to be lower in the intervention groups, and most intervention subjects believed that such therapy was helpful. Both relaxation and music therapy are effective modalities to reduce stress in these patients.
PMID: 2684920 [PubMed - indexed for MEDLINE]

State of the science of music interventions. Critical care and perioperative practice.
White JM. School of Nursing, University of Wisconsin-Milwaukee, Milwaukee, Wisconsin, USA. jill@uwm.edu Crit Care Nurs Clin North Am. 2000 Jun;12(2):219-25.
Music therapy is an easy to administer, relatively inexpensive, noninvasive intervention that can reduce anxiety and pain in critical care and perioperative patients. Libraries of relaxing music selections need to be compiled, reflecting diverse musical tastes. Providing patients with the opportunity to partake in music therapy sessions, selecting their own music, and providing them with quiet, uninterrupted time to listen to the music provides patients with a sense of control and separation from the multiple environmental stressors they are experiencing. Although there is now an extensive empirical base for the therapeutic usefulness of music therapy, particularly with the myocardial infarction population, few hospitals have adopted music therapy programs. Patient satisfaction and outcomes clearly have improved after music therapy sessions have been implemented. Further study with more diverse samples with a wider variety of medical conditions is indicated. Most of these studies used only one or two music sessions. It is not known whether effectiveness of music therapy sessions improves with repeated exposures. Further, there are little data with respect to optimal time for implementation of music therapy, length of music therapy sessions, or types of music to use. The effects of cultural diversity have not been addressed. Music therapy can improve the quality of care that critical care and perioperative nurses deliver to their patients.
PMID: 11249367 [PubMed - indexed for MEDLINE]

Music therapy's relevance in a cancer hospital researched through a constructivist lens.
O'Callaghan C, McDermott F. Peter MacCallum Cancer Centre, Melbourne, Australia.
J Music Ther. 2004 Summer;41(2):151-85
The constructivist research paradigm informed a research investigation on the relevance of music therapy in a cancer hospital, that is, what did the music therapy do and did it help? Over 3 months, criterion sampling was used to elicit interpretations in 5 studies from 5 sources: 128 patients who participated, 27 patients who overheard or witnessed music therapy, 41 visitors, 61 staff, and the music therapist-

researcher. Fifty-seven percent of the patients who participated had advanced or end stage cancer. The music therapist's interpretations were recorded in a reflexive clinical journal and the respondents' interpretations were written on anonymous open-ended questionnaires. Thematic and content analyses were performed on the 5 groups of data with the support of qualitative data management software. Findings from the 5 data groups were contrasted and compared. Many patients', visitors' and staff members' affective, contemplative, and imagined moments in music therapy affirmed their "aliveness," resonating with an expanded consciousness, in a context where life's vulnerability is constantly apparent. Philosophical depictions about the relevance of music in human life, including theories by Addis and Winnicott, substantiated the therapeutic reactions.
PMID: 15307812 [PubMed - indexed for MEDLINE]

Music Improves Adherence to Exercise for COPD Patients
Bauldoff GS, Hoffman LA, Zullo TG, Sciurba FC. Exercise maintenance following pulmonary rehabilitation: effect of distractive stimuli. *Chest*. 2002;122:948-954.
Completion of a pulmonary rehabilitation program (PRP) involving exercise training increases strength, endurance, and exercise tolerance while reducing dyspnea for elderly patients with chronic obstructive pulmonary disease (COPD). However, benefits gained from the PRP often drop off quickly after completion due to a lack of continued adherence. Researchers tested a home-based exercise regimen that included the use of music as a distractive stimuli with 24 elderly COPD patients who had recently completed a PRP. The subjects, mostly white females with an average age of 68 years, completed baseline surveys on depressive symptoms, anxiety, quality of life, and perceived dyspnea. Exercise tolerance was measured by 6-minute walk (6MW) distance. Each subject received instruction in a self-directed, 8-week walking program involving 20-45 minute sessions, 2 to 5 days a week, on flat terrain or on a treadmill, and each was given an electronic pedometer along with an exercise log to record the walking sessions. Subjects in the intervention group also received a portable audiocassette player with tapes of different types of music. At the end of the 8-week program, subjects in the intervention group had an average cumulative walking distance 24% greater than the control group. In addition, they showed a significant increase their 6MW distance and decrease in their dyspnea, while those in the control group remained at baseline or worsened. Depression in both groups decreased over time. Use of music as a distractive stimulus may decrease discomfort and improve adherence to exercise programs in COPD patients.

The effect of standard care, ibuprofen, and music on pain relief and patient satisfaction in adults with musculoskeletal trauma.
J Emerg Nurs 2001 Apr;27(2):124-31 (ISSN: 0099-1767) Tanabe P; Thomas R; Paice J; Spiller M; Marcantonio R Northwestern Memorial Hospital, Chicago, IL 60607, USA. ptanabe@nmh.org.
OBJECTIVE: The purposes of this study were to determine the most effective nursing intervention to decrease pain for patients with minor musculoskeletal trauma and moderate pain at triage and to examine patient satisfaction. METHODS: Patients were assigned to 1 of 3 intervention groups: (1) standard care (ice, elevation, and immobilization); (2) standard care and ibuprofen; or (3) standard care and music distraction. Patients were monitored for pain ratings for 60 minutes. Patients who sustained minor musculoskeletal trauma within the past 24 hours and presented with pain ratings of 4 or greater were included. Two patient satisfaction questions were asked upon discharge from the emergency department. RESULTS: Seventy-seven patients met the inclusion criteria. No differences in pain ratings between groups were demonstrated. A statistically significant reduction in pain for all patients occurred at 30 minutes ($F = 16.18$, $P < .01$) and was maintained at 60 minutes. However, 70% of patients continued to report pain ratings of 4 or greater (on a scale of 1 to 10) at 60 minutes. The reduction in pain was not found to be clinically significant.Eighty-four percent of patients stated that they were more satisfied with their overall care in the emergency department because of the immediate attention to pain relief they received at triage. No differences in satisfaction existed between treatment groups, although patients who reported higher pain ratings expressed statistically significant lower satisfaction with pain management scores ($F = 9.375$, $P = .003$). CONCLUSION: None of the therapies-standard care (ice, elevation, immobilization), standard care with ibuprofen, or standard care with music distraction-provided clinically

significant pain relief to patients who had minor musculoskeletal trauma (ie, sprains and fractures) and moderate pain at triage. Interestingly, satisfaction scores were sometimes positive, even when pain was not relieved.

The effects of harp music in vascular and thoracic surgical patients.
Altern Ther Health Med 2002 Sep-Oct;8(5):52-4, 56-60 (ISSN: 1078-6791) Aragon D; Farris C; Byers JF Department of Vascular and Thoracic Surgery and Critical Care, Orlando Regional Healthcare System, University of Central Florida-Orlando, USA. CONTEXT: Music has been used in the acute clinical care setting as an adjunct to current treatment modalities. Previous studies have indicated that some types of music may benefit patients by reducing pain and anxiety, and may have an effect on physiological measures. OBJECTIVE: To evaluate the scientific foundation for the implementation of a complementary therapy, harp playing. The research questions for this pilot study were: Does live harp playing have an effect on patient perception of anxiety, pain, and satisfaction? Does live harp playing produce statistically and clinically significant differences in physiological measures of heart rate, systolic and diastolic blood pressure, respiratory rate, and oxygen saturation? DESIGN: A prospective, quasiexperimental, repeated measures design was used with a convenience sampling. SETTING: Orlando Regional Medical Center, Orlando Fla. PATIENTS: Subjects wer eligible for the study if they were postoperative and admitted to a hard-wired-bedside-monitored room of the Vascular Thoracic Unit within the 3 days of the study period. INTERVENTION: A singl e20-minute live harp playing session. MAIN OUTCOME MEASURES: Visual analog scales (VAS) were used to measure patient anxiety and pain. Patient satisfaction was measured with a 4-item questionnaire. Physiological measures (heart rate, systolic and diastolic blood pressure, respiratory rate, and oxygen saturation) were recorded from the bedside monitor. METHODS: Visual analog scales (VAS) were completed just before harp playing, 20 minutes after harp playing was started, and 10 minutes after completion. Patient satisfaction with the experience was measured with a 4-item questionnaire. Physiological measures (heart rate, systolic and diastolic blood pressure, respiratory rate, and oxygen saturation) were recorded from the bedside monitor at baseline (5 minutes before study setup), at zero, 5, 10, 15, and 20 minutes after harp playing began, and at 5 and 10 minutes after harp playing stopped. RESULTS: Seventeen patients were used in this study, with a retrospective power of .91. Results indicate that listening to live harp music has a positive effect on patient perception of anxiety (P=.000), pain (P=.000) and satisfaction. Live harp playing also produced statistically significant differences in physiological measures of systolic blood pressure (P=.046), and oxygen saturation (P=.011). Although all values over time trended downward, the changes of other variables were not adequate to achieve statistical or clinical significance. CONCLUSION: Subjects in this study experienced decreased pain and anxiety with the harp intervention, and slight reductions in physiologic variable values. It is not possible in this study to determine if the results were due to the harp music, the presence of the harpist and data collector, or both. Future research is recommended using a control group and comparison of live versus recorded harp music with a wider variety of diagnoses and procedures.

Relaxation and music reduce pain after gynecologic surgery
Good M, Anderson GC, Stanton-Hick M, Grass JA, Makii M.
Pain Management Nursing. 2002;3:61-70.
After gynecologic surgery, women tend to have pain that is incompletely relieved by patient-controlled anesthesia (PCA). Nonpharmacologic techniques of relaxation and listening to music have been shown to help decrease or relieve postsurgical pain among patients following a variety of procedures. Researchers tested pain relief interventions for 311 women, with an average age of 45 years, following gynecologic surgery. The subjects were divided into 3 intervention groups: jaw relaxation, soothing music, and a combination of relaxation and music. All patients were encouraged to ambulate after their procedure and taught to splint against their incision to decrease pain with movement. Pain intensity was measured by a Visual Analog Scale and the subjects were also asked to rate how well they slept on the first night after surgery. All patients in the intervention groups showed significantly reduced pain compared with the control group, who received standard care. Intervention patients with a PCA used 9% to 29% less pain medication than patients with a PCA alone. Reduced pain was related to an increase in ambulation and a decrease in heart and respiratory rates. The interventions had no effect on first-night sleep. Nurses

working with gynecologic surgery patients can offer relaxation techniques or music to help manage postoperative pain.

A non-pharmacological approach to angina.
AUTHORS: Orwin R
AUTHOR AFFILIATION: Freeman Hospital, Newcastle-upon-Tyne.
SOURCE: Prof Nurse 1998 Jun;13(9):583-6
CITATION IDS: PMID: 9782974 UI: 98456303
ABSTRACT: Chronic angina is a debilitating condition that can severely limit physical activity and lead to depression. Patients whose angina is not susceptible to acute surgical or pharmacological interventions may be offered no further palliative solutions. Non-pharmacological interventions such as TENS, spinal cord stimulation, music therapy, relaxation and humour warrant further research and consideration as adjuvant therapies.

Effectiveness of a music therapy intervention on relaxation and anxiety for patients receiving ventilatory Heart Lung
1998 May-Jun;27(3):169-76, Chlan L
ABSTRACT: OBJECTIVE: To test the effects of music therapy on relaxation and anxiety reduction for patients receiving ventilatory assistance. DESIGN: Two-group, pretest-posttest experimental design with repeated measures. Subjects randomized to either a 30-minute music condition or a rest period. SETTING: Four urban midwestern intensive care units. SUBJECTS: Fifty-four alert, nonsedated patients receiving mechanical ventilation. OUTCOME MEASURES: State anxiety (pretest and posttest), heart rate, and respiratory rate obtained every 5 minutes for 30 minutes. RESULTS: Subjects who received music therapy reported significantly less anxiety posttest (10.1) than those subjects in the control group (16.2). Heart rate and respiratory rate decreased over time for those subjects in the music group as compared with the control group subjects.
CONCLUSIONS: A single music therapy session was found to be effective for decreasing anxiety and promoting relaxation, as indicated by decreases in heart rate and respiratory rate over the intervention period with this sample of patients receiving ventilatory assistance.

Effect of a music intervention on noise annoyance, heart rate, and blood pressure in cardiac surgery patients.
Am J Crit Care 1997 May;6(3):183-91
ABSTRACT: Exposure to noise in a critical care unit may trigger a response by the sympathetic nervous system, thereby increasing cardiovascular work in patients recovering from cardiac surgery. OBJECTIVE: To investigate the
effects of a music intervention given twice on the first postoperative day on noise annoyance, heart rate, and arterial blood pressure in subjects with high (n = 22) and low (n = 18) sensitivity to noise. METHODS: A prospective, quasi-experimental, repeated-measures design was used. Based on results of power analysis, the sample size was 40. Subjects were recruited preoperatively, and their sensitivity to noise was assessed. On the first postoperative day, repeated-measures data were collected on levels of noise annoyance and physiological variables during 15 minutes of baseline and 15 minutes of music intervention on two occasions. Subjects completed a follow-up questionnaire regarding their perceptions of the noise in the critical care unit and the music intervention. RESULTS: Repeated- measures analysis of variance showed that subjects had lower levels of noise annoyance during music intervention than at baseline. Heart rate and systolic blood pressure decreased during the music intervention compared with baseline. Diastolic blood pressure decreased during the music intervention from baseline during time 2, but not time 1. Subjects with high baseline scores of noise sensitivity preoperatively had higher baseline levels of noise annoyance in the critical care unit the first postoperative day. Subjects rated the music intervention as highly enjoyable regardless of their baseline noise sensitivity or noise annoyance. CONCLUSION: Results of this study support the idea that noise annoyance is a highly individual phenomenon, influenced by a transaction of personal and environmental factors. Use of a music intervention with cardiac surgery patients during the first postoperative day decreased noise annoyance, heart rate, and systolic blood pressure regardless of the subject's noise sensitivity.

Minimizing preoperative anxiety with alternative caring-healing therapies.
AORN J 2000 Nov;72(5):838-40, 842-3 (ISSN: 0001-2092)
Norred CL
School of Medicine, University of Colorado Health Sciences Center Department of Anesthesiology, Denver, USA.
This article reviews holistic caring-healing therapies that may decrease preoperative anxiety for the surgical patient, based on the philosophy and science of caring developed by Jean Watson, RN, PhD, FAAN. Dr Watson reveals a new paradigm emerging in health care that blends the compassion and caring of nursing in harmony with the curative therapies of medicine. Hypnosis, aromatherapy, music, guided imagery, and massage are integrative caring-healing therapies that may minimize preoperative anxiety. Alternative therapies offer a high-touch balance when integrated with high-tech conventional surgical treatments.

How would patients prefer to spend the waiting time before their operations?
AUTHORS: Hyde R; Bryden F; Asbury AJ
AUTHORAFFILIATION: Department of Anaesthetics, Healthcare International, Clydebank, UK.
SOURCE: Anaesthesia 1998 Feb;53(2):192-5 CITATION IDS: PMID: 9534647 UI: 98196146
ABSTRACT: Many surgical patients are anxious while waiting to go to the operating theatre in spite of the best preparation with drugs, information and reassurance. It is possible that patients could be more comfortable if allowed a choice of activities before operations. The objective of this study was to find out how pre-operative patients might prefer to occupy their time. We distributed 200 questionnaires to elective surgery patients and 184 (92%) were available for analysis. Of the respondents, 54.1% wanted to be slightly sleepy, 72.0% preferred not to be fast asleep and 57.2% preferred not to be wide awake. Reading (56.8%), listening to music (57.1%) and chatting with other patients (39.9%) were preferred activities. It might be appropriate to ask patients how sedated they would wish to be before their surgery and perhaps have alternatives to sedation available.

The effect of music on the neurohormonal stress response to surgery under general anesthesia.
Anesth Analg 2004 Feb;98(2):527-32, table of contents (ISSN: 0003-2999)
Migneault B; Girard F; Albert C; Chouinard P; Boudreault D; Provencher D; Todorov A; Ruel M; Girard DC
Department of Anesthesiology, Centre Hospitalier de l'Universite de Montreal, Hopital Notre-Dame, Montreal, Canada.
Several pharmacological interventions reduce perioperative stress hormone release during surgery under general anesthesia. Listening to music and therapeutic suggestions were also studied, but mostly in awake patients, and these have a positive effect on postoperative recovery and the need for analgesia. In this study, we evaluated the effect of listening to music under general anesthesia on the neurohormonal response to surgical stress as measured by epinephrine, norepinephrine, cortisol, and adrenocorticotropic hormone (ACTH) blood levels. Thirty female patients scheduled for abdominal gynecological procedures were enrolled and randomly divided into two groups: group NM (no music) and group M (music). In group M, music was played from after the induction of anesthesia until the end of surgery. In the NM group, the patients wore the headphones but no music was played. We established three sample times for hormonal dosage during the procedure and one in the recovery room. Hemodynamic data were recorded at all times, and postoperative consumption of morphine in the first 24 h was noted. There was no group difference at any sample time or in the postoperative period in terms of mean arterial blood pressure, heart rate, isoflurane end-tidal concentration, time of the day at which the surgery was performed, bispectral index (BIS) value, doses of fentanyl, or consumption of postoperative morphine. There was no difference between the two groups with regard to plasmatic levels of norepinephrine, epinephrine, cortisol, or ACTH at any sample time, although the blood level of these hormones significantly increased in each group with surgical stimulation. In conclusion, we could not demonstrate a significant effect of intraoperative music on surgical stress when used under general anesthesia. IMPLICATIONS: Listening to music under general anesthesia did not reduce perioperative stress hormone release or opioid consumption in patients undergoing gynecological surgery.

TITLE: **Introducing a music program in the perioperative area.**
AUTHORS: Cunningham MF; Monson B; Bookbinder M
AUTHOR AFFILIATION: Memorial Sloan-Kettering Cancer Center, New York, USA.
SOURCE: AORN J 1997 Oct;66(4):674-82
CITATION IDS: PMID: 9337469 UI: 97478626
ABSTRACT:
Music can touch patients deeply and thus transform their anxiety and stress into relaxation and healing. Patients with cancer who undergo surgical procedures are highly stressed. To help alleviate these patients' stress and improve their comfort, perioperative nurses at Memorial Sloan-Kettering
Cancer Center (MSKCC), New York, surveyed surgical patients and staff members about introducing a perioperative music program. This article reviews the literature on the use of music in perioperative care settings and describes MSKCC's decision to evaluate and then implement a music program.

TITLE: **The use of music during the immediate postoperative recovery period.**
AUTHORS: Heiser RM; Chiles K; Fudge M; Gray SE
AUTHOR AFFILIATION: OR Services, University of Kentucky Hospital, Lexington, USA.
SOURCE: AORN J 1997 Apr;65(4):777-8, 781-5
CITATION IDS: PMID: 9093740 UI: 97247613
ABSTRACT:
The most effective approach to managing patients' pain in the immediate postoperative period may include a combination of pharmacologic agents and noninvasive, nonpharmacologic interventions. In this study, nurse
researchers evaluated the effect of music on pain and anxiety levels and selected physiologic parameters of two groups of patients who were emerging and recovering from anesthesia. Patients in the treatment group listened to music through head-phones during the last 30 minutes of their surgical procedures and during the first hour in the postanesthesia care unit (PACU). Patients in the control group had identical surgical procedures, received the same preoperative medications, and were managed with the
same anesthesia protocol but did not listen to music in the OR or PACU. No differences existed between the two patient groups in the variables measured; however, patients in the treatment group stated that music helped them relax and functioned as a distracter.

Using massage and music therapy to improve postoperative outcomes
AORN J 2003 Sep;78(3):433-42, 445-7 (ISSN: 0001-2092)
McRee LD; Noble S; Pasvogel A
University of Arizona College of Nursing, Tucson, USA.
An experimental pilot study was conducted to investigate the effects of preoperative massage and music therapy on patients' preoperative, intraoperative, and postoperative experiences. Participants were assigned randomly to one of four groups--a group that received massage with music therapy, a group that received massage only, a group that received music therapy only, or a control group. Hemodynamics, serum cortisol and prolactin levels, and anxiety were measured preoperatively and postoperatively. Postoperative anxiety levels were significantly lower and postoperative prolactin levels were significantly higher for all groups

From Medscape Medical News > Oncology

Music Lowers Anxiety and Boosts Mood in Cancer Patients

Roxanne Nelson

Authors and Disclosures

August 12, 2011 — Listening to music may have a beneficial effect on anxiety, pain, mood, and quality of life in cancer patients, according to a new Cochrane systematic review.

The findings from the review, which included 30 trials and a total of 1891 patients, suggested that music therapy and music medicine interventions might also have a beneficial effect on heart rate, respiratory rate, and blood pressure in cancer patients.

"The evidence suggests that music interventions may be useful as a complementary treatment to people with cancer," said lead researcher Joke Bradt, PhD, MT-BC, associate professor in the Department of Creative Arts Therapies at Drexel University, Philadelphia, Pennsylvania.

"Music interventions provided by trained music therapists as well as listening to prerecorded music both have shown positive outcomes in this review, but at this time there is not enough evidence to determine if one intervention is more effective than the other," she noted in a release.

Dr. Bradt also pointed out that when patients can't be blinded to an intervention, there is an opportunity for bias when they are asked to report on subjective measures such as anxiety, pain mood, and quality of life. Therefore, these results need to be interpreted with caution.

The researchers point out that the quality of evidence for some outcomes was low because of the small numbers of trials that have been performed. Further trials could help increase certainty in the findings and improve understanding of music's impact on distress, body image, and other aspects, for which research is currently too scarce to draw any conclusions.

Therapeutic Across Specialties

During the past 2 decades, there has been an increasing interest and a growth of research on the effects of music and music therapy for medical patients, which encompassed a variety of specialty areas, note the authors. For example, music has been used to lessen anxiety for both adults and children before or during surgical procedures and to decrease tension during chemotherapy or radiation therapy. It has also been used to reduce the adverse effects of treatment, to improve mood, to enhance pain management, to boost immune system functioning, and to improve quality of life.

As recently reported by *Medscape Medical News*, music therapy can improve the symptoms of depression when added to standard antidepressant treatment.

Music stimulates the mind and triggers images, metaphors, and emotions that often are preconscious by nature, explained the lead author Jaakko Erkkilä, PhD, from the Finnish Centre of Excellence in Music Research, University of Jyväskylä, Finland.

Music is kind of an emotional language.

"In other words, music is kind of an emotional language with a lot of abstract, unformed psychic ideas," Dr. Erkkila told *Medscape Medical News*. "It enriches communication, stimulates and even evokes speech, and through these qualities is an excellent way to deal with and consider mental problems that are emotional by nature. Making music is also a physical activity, thus enabling functioning and bodily communication."

Benefits Mood, Physiologic Responses

In the current review, the Cochrane authors examined the effects of music therapy or music medicine interventions on psychological and physical outcomes in cancer patients with cancer.

A total of 36 references reporting on 30 trials were included in the review. Nine trials included participants who underwent chemotherapy or radiation therapy, 8 examined the effects of music during procedures or surgery, and 13 trials included general cancer patients. In addition, 4 studies evaluated music interventions with pediatric patients.

The results of 16 trials suggest that music therapy and music medicine interventions may have a beneficial effect on anxiety, which is consistent with the findings from 2 previous Cochrane systematic reviews that evaluated the use of music with coronary heart disease patients and the use of music with patients receiving mechanical ventilatory support.

The pooled estimate from 3 trials suggested that music might help improve the mood of people with cancer, but 5 studies that specifically looked at depression did not find evidence of an effect of music.

When looking at physical symptoms, 6 trials showed that music may have a moderate pain-reducing effect, although no effect was noted for fatigue or physical status.

The authors also found evidence that music interventions may have a beneficial effect on several physiologic responses, including reducing heart and respiratory rates. These results are also consistent with findings from another Cochrane systematic review on the use of music with coronary heart disease patients, which also found a reduction in heart rate.

Single trials that were included in this review supported a beneficial effect of music on mean arterial pressure and immunologic function, but not for oxygen saturation level. Furthermore, although the results suggested that music may benefit quality of life, there was no support for an effect on spirituality.

Cochrane Database Syst Rev. 2011;8:CD006911.