Strategies for Decreasing Patient Anxiety in the Perioperative Setting

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ABSTRACT

Perioperative patient anxiety is a pervasive problem that can have far-reaching effects. Among these effects are increased postoperative pain, increased risk for infection, and longer healing times. Many factors affect perioperative patient anxiety, including the need for surgery, perceived loss of control, fear of postoperative pain, and alteration of body image. This systematic review of current literature was undertaken to identify evidence-based interventions for decreasing patient anxiety in perioperative practice. According to the current research literature, perioperative education and music therapy can be used to successfully reduce surgical patients' anxiety. *AORN J* 92 (October 2010) 445-457. © AORN, Inc, 2010. doi: 10.1016/j.aorn.2010.04.017

Key words: *preoperative anxiety, surgical patient anxiety, perioperative anxiety, anxiety reduction strategies.*

Anxiety is a human reaction to any unknown situation. Although perioperative anxiety is considered to be a normal part of the surgical experience, it is a pervasive problem with far-reaching health outcomes. Anxiety triggers the physiologic stress response, which can impede healing.[1] Anxiety in surgical patients can increase the need for anesthesia, which increases anesthetic risk.[2] Furthermore, anxiety has been shown to increase postoperative pain medication requirements, which can affect postoperative recovery, for example, by slowing respirations, which increases pulmonary risks; decreasing activity, which increases risk of thrombosis; and increasing risk of bowel upset.[2,3] Anxiety also plays a role in increasing the risk of infection and decreasing the immune system response.[4]

Starkweather et al[4] found that patients undergoing spinal surgery experienced high levels of stress regardless of the scope of the surgery. Elevated stress and anxiety were associated with decreased immune system functioning as measured by levels of natural killer cell activity and interleukin-6.[4] Kagan and Bar-Tal[5] found that preoperative uncertainty and anxiety affect

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well-being and short-term recovery. Both variables were shown to have a negative effect on postoperative physical symptoms and recovery as well as overall mental health.

Many factors can contribute to a surgical patient's anxiety level, and these factors can have a cumulative effect. Often, surgery is associated with loss of control, fear of postoperative pain, and alteration in body image.[1] The need for surgery alone increases patient stress and anxiety, no matter the extent of the planned surgical procedure.[4,6]

Preoperative waiting was cited in several studies as a trigger for anxiety.[1,7,8] In one study, ambulatory surgery patients felt a sense of abandonment during the preoperative period.[7] Long wait times with little information added to their anxiety. Some patients reported feeling that nurses were not open to their concerns. In addition, these patients felt that they were not treated as individuals while they were waiting for surgery.[7] Jangland et al[6] found that, among those patients who complained about care and increased anxiety, the most common complaints were insufficient information, inadequate respect, and insufficient empathy. These factors increased patient and family member anxiety and reduced their confidence in the health care system.

The environment inside the OR also has an effect on patient anxiety. Factors such as the sound of alarms on machinery and the noise from surgical instruments being unpacked can have a significant effect on increasing anxiety.[8]

In today's health care setting, patients are less likely to receive inpatient care. Often, patients are sent home after procedures that would have required an overnight stay just a few years ago.[7] Helping patients achieve the best outcome is essential for their fast recovery and safe return home. Perioperative nurses are pushed to be efficient both during and between procedures, however, which can leave little time to concentrate on the psychologic needs of the patient.[9]

Current management of anxiety involves using medical interventions, such as administering midazolam before surgery, and using effective communication strategies.[2] Perioperative nurses have expert knowledge not only of surgical procedures but also of the surgical environment and the experiences patients will face during their time in the perioperative area. This knowledge uniquely positions perioperative nurses to address patient anxiety with nonmedical interventions. However, given the limited time that most perioperative nurses have to spend with their patients before surgery, whatever communication and other nonmedical interventions are used must be precise and effective. This article reviews current research to identify effective strategies for decreasing anxiety in surgical patients and recommends evidence-based interventions for perioperative nursing practice.

REVIEW OF CURRENT RESEARCH

I conducted a literature review by using the CINAHL® and ProQuest nursing databases. The combination of the following key words yielded the most articles: *anxiety, surgery,* and *intervention*. I limited the search to research articles published from 2003 to 2009. This yielded 10 relevant research studies (Table 1).

Therapeutic Relationship

Erci et al[10] studied the effect of a therapeutic relationship on preoperative and postoperative anxiety in Turkey. The study sample consisted of 120 consecutive patients, 60 assigned to the study group and 60 to the control group. Patients were included if they were

- older than 18 years of age,
- scheduled for a surgical procedure, and
- capable of giving voluntary consent.

Data were collected by using the Beck Anxiety Inventory (BAI). The BAI is designed to assess anxiety in clinical and research settings. It is composed of 21 items rated on a 4-point Likert scale (3 = very serious to 0 = not serious), with a cumulative score between zero and 63. The higher the score, the higher the person's level of anxiety.

TABLE 1. Summary of Research Articles on Perioperative Anxiety

Study	Sample size and characteristics	Intervention	Instruments used	Findings
Erci et al[10]	N = 120 Adults scheduled for surgery at general surgery clinic in Turkey	■ Control group: usual care ■ Study group: intervention designed to build a therapeutic relationship based on the Interpersonal Relations Model	■ Beck Anxiety Inventory (BAI)	Anxiety mean score ($P < .001$): ■ Preintervention: ■ Control group = 18.2 ■ Study group = 18.5 ■ Postintervention: ■ Control group = 9.7 ■ Study group = 1.4 Researchers concluded that decreased patient anxiety was associated with the intervention.
Spaulding[3]	N = 10 British patients awaiting total hip replacement procedure; and N = 7 education program presenters	Qualitative study with interviews with presenters of occupational therapist-run preoperative education program ■ Control group ■ Intervention group	■ Researcher designed coding of themes from observations	Intervention group: ■ Patients stated preoperative education had been helpful ■ Patients suggested that the education intervention reduced anxiety in interviews with researchers
Ng et al[11]	N = 196 Patients undergoing oral surgery procedures in Hong Kong	Four patient education groups: ■ Group N: basic preoperative information ■ Group P: basic information with details of surgical procedure ■ Group R: basic information with details of expected recovery ■ Group PR: basic information with details of both surgical procedure and expected recovery	■ Depression Anxiety Stress Scale ■ Self reporting of anxiety by patients	■ High trait anxiety patients: mean anxiety scores of R and PR groups significantly lower than groups N and P ($P = .653$) ■ Low trait anxiety patients: ■ P, PR, and R groups had lower anxiety than N group ($P = .753$) ■ PR and R groups had significant changes from baseline anxiety ($P < .05$) Preoperative information regarding postoperative recovery and/or surgical procedure details led to significant reduction of self reported anxiety.
Stirling et al[2]	N = 40 Patients on a thoracic surgery ward in the United Kingdom	Three groups: ■ Control: routine care ■ Intervention 1: routine care plus use of neutral essential oils ■ Intervention 2: routine care plus use of essential oil blend	■ Strait-Trait Anxiety Inventory (STAI)	STAI day 21 scores: ■ Control mean = 43.13 ■ Neutral oil intervention mean = 44.64 ■ Oil blend intervention = mean 44.45 No statistically significant differences

TABLE 1. *(continued)* Summary of Research Articles on Perioperative Anxiety

Study	Sample size and characteristics	Intervention	Instruments used	Findings

Roykulcharoen and Good[12]	N = 102
	Patients undergoing abdominal surgery (84 women; 18 men) in Thailand
		Two groups:
		■ Control group: usual care
		■ Intervention group: systemic relaxation
			■ Visual Analog Sensation of Pain and Distress scales
			■ STAI
				■ Control group:
				  ■ Preoperative mean 42.0
				  ■ End recovery mean 39.7
				■ Intervention group:
				  ■ Preoperative mean 42.5
				  ■ End recovery mean 38.4
				No statistically significant difference

Seers et al[13]	N = 118
	Patients recruited from group admitted for total hip or knee replacement surgery at an orthopaedic hospital in the United Kingdom
		Two control groups:
		■ one with usual care and
		■ one with usual care plus resting quietly for 15 minutes
		Two intervention groups:
		■ one taught jaw relaxation and
		■ one taught total body relaxation
			■ STAI
			■ Visual Analog Pain Scale
				Mean changes in STAI scores (preintervention and postintervention):
				■ Usual care group: 0.115 (standard deviation [SD] 2.160)
				  ■ Usual care plus resting group: 1.179 (SD 2.019)
				  ■ Jaw relaxation group: 1.208 (SD 2.502)
				  ■ Total relaxation group: .320 (SD 2.501)
				There was no statistically significant change in score between groups preintervention to postintervention.

Arsian et al[14]	N = 64
	Adult men, ages 18 to 65 years, undergoing urogenital surgery in Turkey
		Two groups:
		■ Control group: routine care
		■ Intervention group: listening to music for 30 minutes with headphones in the preoperative area
			■ STAI	STAI mean scores:
				■ Before therapy
				  ■ Control = 42.5
				  ■ Intervention = 39.59
				■ After therapy-
				  ■ Control = 44.43
				  ■ Intervention = 33.68
				Control group: increased anxiety scores ($P = .003$)
				Intervention group: decreased anxiety scores ($P = .000$)

Cooke et al[15]	N = 180 Adult surgery patients in Australia admitted and discharged the same day as surgery, both men and women over the age of 18 years, able to use headphones, fluent in English, no preoperative sedation	Participants randomly assigned to 1 of 3 groups in the preoperative area: ■ Control: routine care ■ Placebo: routine care and headphones for 30 minutes with no music ■ Intervention: routine care and music of choice via headphones for 30 minutes	■ STAI	Postintervention STAI mean and 95% confidence interval (CI): ■ Control: 32.7 (95% CI, 31.5-34.0) ■ Placebo: 32.5 (95% CI, 31.2-33.8) ■ Intervention: 28.5 (95% CI, 27.4-29.6) The music (intervention) group had a statistically significant reduction in anxiety compared with the control group ($P < .001$).

TABLE 1. *(continued)* Summary of Research Articles on Perioperative Anxiety

Study	Sample size and characteristics	Intervention	Instruments used	Findings
Kain et al[16]	N = 408 Healthy pediatric patients, ages 2 through 10 years undergoing general anesthesia for elective outpatient surgery and their parents at Yale-New Haven Children's Hospital	Four groups: ■ Control: usual care ■ Group 2: parental presence at induction of anesthesia ■ Group 3: midazolam 30 minutes before induction of anesthesia ■ Group 4: integrated behavioral preparation program including parental presence at induction of anesthesia	■ Parents: STAI ■ Child: Modified Yale Preoperative Anxiety Scale (mYPAS) ■ Emergence behavior: observation ■ Analgesic requirements: codeine-unit scale	Significant differences between groups: F = 4.2; P = .0006 Group 4 had significant decrease in anxiety ($P < .001$)
MacLaren and Kain[17]	N = 112 Pediatric patients aged 2 through 7 years undergoing surgery and their parents	Two groups: ■ Control: routine care ■ Intervention: education provided to children undergoing general anesthesia about mask induction and expected behaviors in the OR; parental instruction also provided	■ mYPAS ■ Induction Compliance Checklist	■ Anxiety: Change in mYPAS separation to induction comparing groups – F (1,101) = 6.32, $P < .02$ ■ Induction compliance vs noncompliance (intervention vs control) – χ^2 (1, N = 99) = 6.14, P = .01 The intervention group was significantly more compliant at anesthesia induction than the control group.

On the patient's first day of enrollment in the study, the patient completed a baseline BAI in the general surgery clinic. Immediately after this, the study group was given an intervention based on Peplau's Interpersonal Relationship Model, which was designed to build a therapeutic relationship between patient and caregiver, which in this study was specifically the researcher. The Interpersonal Relationship Model has four phases (ie, orienting, identification, exploitation, resolution). This researcher used activities of caring within each of the model's four phases as the interventions of the study. The second BAI was completed by the patient the day before surgery, the third was completed the day after surgery, and the fourth and final BAI was completed the day the patient was discharged home. There was no statistical demographic difference between the two groups, and preintervention anxiety scores showed no statistical difference. There was a significant decrease in mean scores for patient anxiety in the study group compared with the control group. This change was most pronounced between the third and fourth measurements.[10]

Preoperative Information

Two studies examined the effect of preoperative information on relieving anxiety.[3,11] In Britain, Spaulding[3] looked at the effects of a preoperative education program run by occupational therapists for patients awaiting total hip replacement. In this qualitative, observational study, researchers collected data from written patient evaluations, in-person interviews with patients, interviews with

presenters of the educational programs, and observation. Educational presenters were interviewed twice, as were patients. The study sample consisted of 10 patients and 7 presenters. Patient participants were selected from the list of patients on the total hip replacement waiting list and were invited by mail to attend the preoperative patient program. According to the researchers, these subjective findings suggest that preoperative education reduces anxiety because it gives the patient a sense of what to expect.[3]

Ng et al[11] studied the effect of preoperative information on the anxiety of patients undergoing oral surgery in Hong Kong. Patients of six dental practitioners were recruited for the study by using notices placed in the dental offices. The 196 patients who entered the study were separated into four groups:

- N—received basic information,
- P—received basic information plus details about the surgical procedure,
- R—received basic information plus details of the expected recovery,
- PR—–received basic information plus details of both the surgical procedure and expected recovery.

The Depression Anxiety Stress Scale was used to measure study participants' level of trait anxiety before, during, and after surgery. The Depression Anxiety Stress Scale is composed of three separate scales (ie, anxiety, depression, stress). Each scale has 14 items and is answered by the participant on a 4-point Likert scale (0 = not applicable to 3 = always applicable). The scale was completed before the patients received any preoperative information. Groups were further divided based on measurements of high or low trait anxiety. The patients' self-reported anxiety before, during, and after surgery by rating their subjective anxiety on a scale of zero to 100 (0 = none to 100 = most intense). The PR and R groups had statistically significant decrease in anxiety compared with the baseline measure. The researchers determined that preoperative education that included information about recovery or information about recovery and the intraoperative and postoperative periods helped decrease the anxiety of study participants. However, receiving only basic information about the procedure (ie, the N group) only decreased anxiety in those participants who had a lower level of anxiety before the surgical experience.[11]

Essential Oils

The effect of essential oils in reducing perioperative patient anxiety was studied by Stirling et al.[2] This was a double-blind randomized study to determine the feasibility for a larger study to examine the effects of essential oils on the anxiety of patients awaiting surgery in a thoracic ward. Participants were randomly assigned to either the control or study group. Although the goal was to have 30 participants in each group and 71 patients consented to participate, only 40 completed the study.

Participants were given essential oils to self-apply and to take home to continue use for 21 days after discharge. Participants were instructed to use the oil continuously from postoperative day 1 through day 21. Participants completed the State-Trait Anxiety Inventory (STAI), which consists of 20 statements rated using 4-point Likert scale, to indicate how they felt at a particular time. Higher scores indicate higher anxiety. Data were collected before the intervention and at day 3 and day 21 of the study. Results were reported as differences in STAI measurements on day 3 and day 21 for each participant.

Low patient participation made it difficult for the researchers to draw specific conclusions from the results. In addition, the study had less power to detect differences in anxiety because the patient population did not have uniform preintervention anxiety. This study did not demonstrate a statistically significant relationship between the use of essential oils and anxiety reduction. It is

difficult to draw specific conclusions about the intervention because of the study's limitations.[2]

Relaxation Techniques

Two studies examined the use of relaxation techniques in surgical patients.[12,13] Roykulcharoen and Good[12] examined the effect of systematic relaxation on pain and anxiety during recovery after abdominal surgery. Their work was based on Orem's Self-Care Theory and the theoretical assumption that nurses assist patients in meeting the need to care for themselves. This study was undertaken at a large hospital in Thailand. Patients undergoing surgery were eligible to participate if they

- were 20 to 65 years of age,
- were expecting to remain in the hospital two to three days after surgery, and
- would receive opioid pain medication as needed.

Participants were randomly assigned to the experimental or control group. Participants in the experimental group were taught systematic relaxation before surgery. The Visual Analog Sensation of Pain and Distress scale was used to measure pain in the area of the patient's incision. The Visual Analog Sensation of Pain and Distress scale is a dual scale; the pain scale is a 100-mm horizontal line, with ends marked zero (ie, no sense of pain) and 100 (ie, the worst imaginable pain), and the distress scale is a 100-mm horizontal line with ends marked zero (ie, no distress) and 100 (ie, most distress imaginable). Pain was measured immediately after patients returned to bed after ambulation and then 15 minutes after relaxation techniques were used. The distress scale was used to indicate the amount of emotional upset associated with the pain. Participants' opioid use was also measured. The researchers reported that patients in the experimental group had significantly less distress and decreased sensations of pain than patients in the control group; however, the intervention did not affect postoperative anxiety or opioid intake.[12]

In a separate study, Seers et al[13] studied postoperative pain and anxiety, and the effects of relaxation. They examined jaw relaxation techniques as well as total body relaxation techniques with patients admitted for total hip or knee replacement in an orthopaedic hospital in the United Kingdom. The goal was to enlist 236 patients, but only 200 were recruited, and only 118 completed the study. There were two relaxation intervention groups and two control groups. The first experimental group was taught total body relaxation, and the second experimental group was taught jaw relaxation. The first control group received the usual care, and the second control group received the usual care and also rested quietly on their own for 15 to 20 minutes. Pain and anxiety scores were measured before surgery and after the intervention by using the STAI. Although there were changes in pain scores, no significant difference was found in anxiety scores between any of the groups. In addition, the researchers report that the effect of total body relaxation was not long-lasting.[13]

Music Therapy

Two articles described the effects of music on stress and anxiety in surgical patients.[14,15] Arsian et al[14] investigated the effect of music on preoperative anxiety. The sample was composed of men who were to undergo urogenital surgery in Turkey. Patients were

- recruited from an inpatient urology clinic,
- between the ages of 18 and 65 years, and
- fluent in Turkish.

After enrolling in the study, 32 participants were assigned to the control group and 32 participants were assigned to the experimental group. On the day of surgery, participants in both the control and experimental groups completed the STAI. The participants in the experimental group were then asked to pick their favorite selection from a variety of music. They were given a portable cassette player with their choice of music and headphones, and they listened to the music for 30

minutes. The experimental group participants then completed another STAI. The control group rested in a quiet area for 30 minutes and then completed another STAI. Statistical analysis of the data was conducted by using *t* tests and chi-square tests; the statistical significance level was set at .05. Comparison of the average anxiety scores showed a statistically significant decrease in the experimental group's average anxiety scores. The control group's post-test scores showed a statistically significant increase in anxiety scores. The investigators concluded that having patients listen to music preoperatively as a nursing intervention reduced anxiety levels of preoperative patients.[14]

The effect of music on preoperative anxiety was also studied by Cooke et al.[15] The study was conducted in an adult ambulatory surgery unit in Australia. Only patients admitted and discharged to home on the same day of surgery were admitted to the study. In addition, the participants

- had to be older than 18 years of age,
- had to be able to use headphones easily,
- had to be fluent in English, and
- could not have taken preoperative sedatives before the intervention.

The 180 participants were assigned to one of three groups: control, placebo, or experimental. A research assistant not involved with data collection helped to ensure that an equal number of men and women were assigned to each of the three groups. Anxiety was measured by using the STAI. Patients arriving for surgery were asked to participate in the study, and those who agreed and met the eligibility criteria were assigned to one of the three groups. After being admitted to the preoperative holding area, the participants completed the baseline STAI. The control group received routine care only; the placebo group wore headphones but did not listen to music; and the experimental group wore headphones and listened to music of their choice from a list of music types. At the end of 30 minutes, all the participants completed the STAI again. The data were analyzed by using analysis of variance (ANOVA), with an $\alpha = .05$ to determine statistical significance. Mean differences between the intervention group and the control and placebo groups were statistically significant. There was no difference between the control and the placebo groups. This study's findings supported the hypothesis that listening to music for 30 minutes before surgery on the day of surgery is associated with a decrease in preoperative anxiety.[15]

Children and Families

Several studies focused on children and families in a variety of perioperative settings. Kain et al[16] evaluated family-centered preparation for surgery and how it affected outcomes. The participants for the study were children who

- were two through 10 years of age,
- were in good health, and
- had undergone general anesthesia for elective, outpatient surgery from 2000 to 2004 at Yale-New Haven Children's Hospital, New Haven, Connecticut.

Participants were randomly assigned to one of four experimental groups. The control group received standard preoperative care. The parental-presence group received the standard care as well as parental presence during induction of anesthesia. The midazolam group received oral midazolam (0.5 mg/kg) 30 minutes before being taken to the OR without parental presence. The ADVANCE (ie, Anxiety-reduction, Distraction, Video modeling and education, Adding parents, No excessive reassurance, Coaching, and Exposure/shaping) group received standard care plus a multicomponent behavioral preparation program, which included parental presence, video modeling and education, coaching and exposure, and no excessive reassurance. The primary outcome being studied was the children's anxiety levels. Secondary outcomes included parent anxiety, incidence of emergence delirium, analgesic requirement, and time to discharge after surgery.

Parental anxiety was measured by using the STAI; child anxiety was measured on the modified Yale Preoperative Anxiety Scale (mYPAS). The mYPAS consists of 27 items in five categories, and data are gathered via observation to assess the anxiety behavior of children in the perioperative setting. Emergence behavior was rated on a 3-point scale by trained observers, analgesia requirements were measured from the patient's medical record and converted to a codeine-unit scale, and time the patient arrived in the postanesthesia care unit was used for the discharge time. There were 408 participants in the study, and all of the four groups were similar in demographic characteristics. Using two-way ANOVA, researchers determined that there was significantly lower anxiety in the children in the ADVANCE group compared with children in the other three groups ($P < .001$). In addition, children in the ADVANCE group

- were less likely to exhibit emergence delirium,
- received only half as much fentanyl compared with the parental-presence group and only one-third as much fentanyl as the other two groups, and
- were discharged significantly earlier than children in the other three groups.[16]

MacLaren and Kain[17] examined an educational program for pediatric patients concerning anesthesia induction and what to expect of the anesthetic experience. The researchers randomly assigned 112 children, ranging from two to seven years of age, to either the control or the intervention group. Measures were made with the mYPAS, the STAI, and the Induction Compliance Checklist. The Induction Compliance Checklist is an 11-item scale used to analyze a child's behavior during induction of anesthesia. Each item represents a behavior that interferes with mask induction (eg, turning the head away from the mask) and is rated zero (ie, present) or 1 (ie, absent). The Induction Compliance Checklist was used in this study to measure the behavior of the participants at the time of anesthesia induction as rated by the research observer.

After patients and their family members had arrived in the preoperative holding area, the parents were given the STAI, while the children were observed by trained research assistants who filled out the mYPAS. After this baseline observation, children were randomly assigned to one of the two groups. Children in the intervention group were then exposed to the shaping intervention, which included being introduced to the anesthesia mask and to the desired behaviors expected when they enter the OR. Examples of desired behavior included the child playing with an anesthesia face mask, the child putting the mask over his or her mouth, the child allowing the parents to hold the mask on the child's face, and the child climbing onto the examination table.

Parents of children in the intervention group also were given instructions about the induction of anesthesia. The children in both groups were rated on the mYPAS when called to the OR and at induction of anesthesia. Multivariate analysis was used to evaluate the findings. This analysis found that there were significant differences between groups ($P < .02$). In addition, there was a relationship between group and time. Anxiety increased significantly from the baseline measurement to when the measurement was taken at the point of separation from the parents for the intervention group compared with the control group. However, there was a significant increase in anxiety for the control group from separation from parents to induction of anesthesia, whereas the intervention group had a statistically significant decrease in this score. In addition, children in the intervention group were significantly more likely to be compliant at induction than children in the control group ($P < .01$). Parents' anxiety was measured in the preoperative holding area and again at separation from their child. Parents' anxiety increased regardless of group assignment. The researchers concluded that children in the intervention group were significantly more compliant

at induction of anesthesia and had smaller increases of anxiety from baseline than did children in the control group, but the intervention did not affect the anxiety scores of the parents.[17]

IMPLICATIONS FOR PRACTICE

As this literature review demonstrates, many strategies for reducing patient anxiety have been tried, but only a few have proven successful. The most effective interventions from the current literature are perioperative patient education and music therapy. A care plan that identifies nursing actions to manage the perioperative anxiety of any patient undergoing a surgical procedure is presented in Table 2.

Preoperative Education

In today's health care system, it is rare for patients undergoing scheduled surgery to be admitted before the morning of their procedure. This admission routine limits the time that nurses have to implement a preoperative education plan. In addition, nurses in the preoperative and intraoperative areas are pushed to move patients through quickly. These factors can limit the amount of time that can be dedicated to a preoperative education program.

From the review of current evidence, it is clear that some form of basic education should be implemented for patients on the day of surgery. Because some individuals do not want as much information as others, a framework of general information can be put in place for all patients. Opportunities should be provided for patients to ask questions if more information is sought. This basic educational material should include an overview of the surgical process. I suggest the information should include what to expect in the preoperative area, emphasizing

- that wait times can vary,
- who to ask for information should a question arise,
- who they will meet during this time, and
- the general process of getting ready for surgery.

Patients also should be given general intraoperative information, including that

- they will move to another bed after arriving in the OR,
- there will be unusual equipment around,
- people may be coming and going, and
- that it can be cold, but warm blankets are always available.

Postoperative Information

Postoperative information that patients need includes reassurance that pain needs will be met, an explanation of how the pain scale will work to help them communicate their needs, and what to expect on discharge. Although not all health care providers will be able to give the postoperative information specific to each surgery and surgeon, a general overview of the postoperative and discharge process should be included in any teaching plan. For families with pediatric patients, research results show that education before the day of surgery is helpful.[17] If that is not possible, then basic information about induction of anesthesia should be included with other basic preoperative teaching to help decrease fears and increase understanding by patients and their parents.[16]

Music Therapy

Music therapy is an intervention that has also shown effectiveness in reducing preoperative anxiety. However, giving each patient his or her own music player for use on the day of surgery may not be feasible in all settings, especially given current constraints on health care organization budgets. Other, more cost-effective ways of providing calming music in the preoperative and intraoperative environments should be evaluated by facilities as a way of reducing anxiety for patients.

TABLE 2. Care Plan for Managing Perioperative Patient Anxiety

Diagnosis	Nursing interventions	Interim outcome statement	Outcome statement
Anxiety or ineffective coping	■ Identifies psychosocial status. ■ Evaluates psychosocial status relative to age and stage of development. ■ Identifies patient home profile (eg, household composition, ages, gender, roles, occupations; family coping skills, limitations). ■ Identifies patient's resources (eg, insurance, home environment, extended family, community). ■ Assesses coping mechanisms. ■ Reviews patient's coping pattern and its effectiveness. ■ Identifies patient's religious practices. ■ Identifies philosophical, cultural, and spiritual beliefs and related practices. ■ Asks the patient to describe current methods of dealing with stress. ■ Observes for behavior that may indicate ineffective coping (eg, verbalization of anger, depression, ineffective coping, alterations in diet, disruption of sleep pattern; restlessness; absence of eye contact; absence of or reduced participation in plan of care; withdrawal from family or staff members; hostility toward family or staff members). ■ Determines when these behaviors became first apparent. ■ Encourages patient to express feelings. ■ Determines the most effective methods of communication and support. ■ Evaluates availability and effectiveness of support system. ■ Identifies patient and designated support person's educational needs. ■ Determines knowledge level. ■ Elicits perceptions of surgery. ■ Identifies barriers to communication. ■ Determines the patient's ability to understand the information offered. ■ Includes the patient or designated support person in perioperative teaching. ■ Explains expected sequence of events. ■ Provides status reports to the designated support person. ■ Implements measures to provide psychologic support. ■ Assesses for signs and symptoms of anxiety or fear (eg, fears and concerns, preoperative insomnia, muscle tenseness, tremors, irritability, change in appetite, restlessness, diaphoresis, tachypnea, tachycardia, elevated blood pressure, facial pallor or flushing, withdrawn behavior).	■ The patient verbalizes the sequence of events to expect before and immediately after surgery. ■ The patient states realistic expectations regarding recovery from the procedure. ■ The patient and family describe the prescribed postoperative regimen accurately.	■ The patient or designated support person demonstrates knowledge of the expected responses to the operative or invasive procedure.

TABLE 2. *(continued)* Care Plan for Managing Perioperative Patient Anxiety

Diagnosis	Nursing interventions	Interim outcome statement	Outcome statement
	■ Orients patient to environment and care routines and practices. ■ Introduces staff members. ■ Assures the patient that a member of the staff is nearby. ■ Provides information and answers questions honestly. ■ Maintains a calm, supportive, confident manner. ■ Provides an atmosphere of care and concern (eg, privacy, nonjudgmental approach, empathy, respect). ■ Offers alternative methods to minimize anxiety (eg, music, humor). ■ Reinforces physician's explanations and clarifies misconceptions. ■ Explains the purpose of preoperative preparations before implementation. ■ Encourages patient participation in decision making and planning for postoperative care. ■ Evaluates psychosocial response to the plan of care.		

FURTHER RESEARCH

The evidence presented here supports implementation of perioperative education and music therapy to decrease patient anxiety. Managing the environment also could help decrease the effect of the perioperative environment on patients' anxiety. When a patient enters the OR, care should be taken to silence machinery, so that unnecessary alarms do not startle or frighten the patient. In addition, unpacking and moving instruments and equipment should be minimized. Implementing a system to keep patients and their family members updated while they are waiting for their procedures could help decrease anxiety and reassure patients that all is well. Reliable, replicable programs in these areas should be developed and tested to determine the optimal interventions to reduce perioperative anxiety for patients and families.

Although articles about anxiety and surgery are available in the current literature, more studies need to be performed to develop and test interventions to determine their effectiveness in reducing anxiety in the fast-paced perioperative area. Because of the paucity of research being performed on this topic in the United States, many of the studies reviewed here for evidence have come from other cultures and disciplines. Although it can be difficult to extrapolate and apply data from research done in diverse cultures, these studies can point the way for further research opportunities. Anxiety can have far-reaching effects on surgical outcomes. Developing effective anxiety-reducing strategies based on evidence is essential to optimize patient care. AORN

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EXAMINATION

CONTINUING EDUCATION PROGRAM

3.0 CE

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Strategies for Decreasing Patient Anxiety in the Perioperative Setting

PURPOSE/GOAL

To educate perioperative nurses about methods to decrease patient anxiety in the perioperative setting.

OBJECTIVES

1. Describe the physiologic stress response triggered by anxiety.
2. Identify factors that can contribute to a surgical patient's anxiety level.
3. Discuss methods to decrease surgical patients' anxiety that perioperative nurses can implement.
4. Discuss anxiety as it relates to pediatric patients and their parents.

The Examination and Learner Evaluation are printed here for your convenience. To receive continuing education credit, you must complete the Examination and Learner Evaluation online at *http://www.aorn.org/CE*.

QUESTIONS

1. Anxiety triggers the physiologic stress response, which can
   1. impede healing.
   2. increase the need for anesthesia.
   3. increase postoperative pain medication requirements.
   4. affect postoperative recovery.
   5. increase the risk of infection.
   a. 1 and 2 *b.* 3, 4, and 5
   c. 1, 2, 3, and 4 *d.* 1, 2, 3, 4, and 5

2. Factors that contribute to a surgical patient's anxiety level include
   1. alteration in body image.
   2. fear of postoperative pain.
   3. loss of control.
   4. the need for surgery.
   5. lack of information about upcoming procedures.
   a. 2 and 5 *b.* 1, 3, and 4
   c. 1, 2, 3, and 4 *d.* 1, 2, 3, 4, and 5

3. In a study by Jangland et al, among patients who complained about care, the most common factors that patients said increased their anxiety were
   1. dissatisfaction with the need to arrive early at the facility.
   2. poor quality of postoperative snacks.
   3. insufficient empathy.
   4. insufficient information.
   5. inadequate respect.
   a. 1 and 3 *b.* 2 and 4
   c. 3, 4, and 5 *d.* 1, 2, 3, and 4

4. Factors such as the sound of alarms on machinery and the noise from surgical instruments being

unpacked can have a significant effect on increasing anxiety.
a. true *b.* false

5. According to a study by Ng et al, providing only basic information about the procedure only decreased anxiety in those participants who had a higher level of anxiety before the surgical experience.
a. true *b.* false

6. In a study by Roykulcharoen and Good, use of systematic relaxation techniques
1. decreased sensations of pain.
2. decreased postoperative anxiety.
3. resulted in less distress.
4. decreased opioid intake.
a. 1 and 3 *b.* 2 and 4
c. 1, 2, and 4 *d.* 1, 2, 3, and 4

7. According to a study by Cooke et al, listening to music for 30 minutes before surgery on the day of surgery was associated with a significant decrease in preoperative anxiety.
a. true *b.* false

8. In a study on children and families by Kain et al, the researchers determined that compared with the other groups, children in the ADVANCE (ie, Anxiety-reduction, Distraction, Video modeling and education, Adding parents, No excessive reassurance, Coaching, and Exposure/shaping) group
1. had statistically significant lower anxiety.
2. received less fentanyl.
3. were discharged significantly earlier.
4. were less likely to exhibit emergence delirium.
a. 1 and 3 *b.* 2 and 4
c. 1, 2, and 4 *d.* 1, 2, 3, and 4

9. In a study of pediatric patients by MacLaren and Kain, the researchers concluded that
1. children in the intervention group had smaller increases of anxiety from baseline.
2. children in the intervention group were significantly more compliant at induction of anesthesia.
3. the intervention did not affect the anxiety scores of the parents.
4. the intervention decreased the anxiety scores of the parents.
a. 1 and 3 *b.* 2 and 4
c. 1, 2, and 3 *d.* 1, 2, and 4

10. As found in this review of current literature, the most effective interventions for decreasing patient anxiety in the perioperative setting are
1. essential oils.
2. music therapy.
3. perioperative education.
4. relaxation techniques.
a. 1 and 4 *b.* 2 and 3
c. 1, 3, and 4 *d.* 1, 2, 3, and 4

The behavioral objectives and examination for this program were prepared by Rebecca Holm, RN, MSN, CNOR, clinical editor, with consultation from Susan Bakewell, RN, MS, BC, director, Center for Perioperative Education. Ms Holm and Ms Bakewell have no declared affiliations that could be perceived as posing potential conflicts of interest in the publication of this article.

LEARNER EVALUATION

CONTINUING EDUCATION PROGRAM

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Strategies for Decreasing Patient Anxiety in the Perioperative Setting

This evaluation is used to determine the extent to which this continuing education program met your learning needs. Rate the items as described below.

OBJECTIVES

To what extent were the following objectives of this continuing education program achieved?

1. Describe the physiologic stress response triggered by anxiety. *Low 1. 2. 3. 4. 5. High*
2. Identify factors that can contribute to a surgical patient's anxiety level. *Low 1. 2. 3. 4. 5. High*
3. Discuss methods to decrease surgical patients' anxiety that perioperative nurses can implement. *Low 1. 2. 3. 4. 5. High*
4. Discuss anxiety as it relates to pediatric patients and their parents. *Low 1. 2. 3. 4. 5. High*

CONTENT

5. To what extent did this article increase your knowledge of the subject matter? *Low 1. 2. 3. 4. 5. High*
6. To what extent were your individual objectives met? *Low 1. 2. 3. 4. 5. High*
7. Will you be able to use the information from this article in your work setting? *1. Yes 2. No*
8. Will you change your practice as a result of reading this article? (If yes, answer question #8A. If no, answer question #8B.)

8A. How will you change your practice? *(Select all that apply)*

1. I will provide education to my team regarding why change is needed.
2. I will work with management to change/implement a policy and procedure.
3. I will plan an informational meeting with physicians to seek their input and acceptance of the need for change.
4. I will implement change and evaluate the effect of the change at regular intervals until the change is incorporated as best practice.
5. Other: _____

8B. If you will not change your practice as a result of reading this article, why? *(Select all that apply)*

1. The content of the article is not relevant to my practice.
2. I do not have enough time to teach others about the purpose of the needed change.
3. I do not have management support to make a change.
4. Other: _____

9. Our accrediting body requires that we verify the time you needed to complete the 3.0 continuing education contact hour (180-minute) program: _____

This program meets criteria for CNOR and CRNFA recertification, as well as other continuing education requirements.

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The deadline for this program is October 31, 2013.

A score of 70% correct on the examination is required for credit. Participants receive feedback on incorrect answers. Each applicant who successfully completes this program can immediately print a certificate of completion.