

Review

Caring for the surgically anxious patient: a review of the interventions and a guide to optimizing surgical outcomes



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Abstract

BACKGROUND: Preoperative surgical anxiety is an unpleasant and common reaction exhibited by patients who are scheduled for surgical procedures. Beyond emotional effects on the patient, it can also have negative repercussions on the surgery including longer hospital stays and poorer outcomes. Given the widespread impacts of preoperative anxiety, it is critical for surgeons to gain a better understanding of how to identify and reduce surgical anxiety in their patients.

DATA SOURCES: This study used the PubMed database to review the current literature to evaluate screening tools and interventions for surgically anxious patients.

CONCLUSIONS: Psychiatric anxiety surveys are currently the most appropriate form of assessment for surgical anxiety. Patient education is important for preventing and reducing anxiety levels in patients. Both nonpharmacological and pharmacological interventions have been shown to be effective in reducing patient anxiety and treatment should be based on patient preference, resources available, and the surgeon's experience.

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Anxiety is a common reaction exhibited by patients who are scheduled for surgical procedures. Grupe and

Nitschke¹ define anxiety as an unpleasant emotional state “consisting of anticipatory affective, cognitive, and behavior changes in response to uncertainty about a future threat.” A distinction between the 2 types of anxiety—state and trait—should be drawn. State anxiety describes temporary, undesirable feelings of nervousness or worry because of a potential threat, while trait anxiety is characterized as an individual's susceptibility toward feeling anxiety.² Specifically, preoperative anxiety—or surgical

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anxiety—is a form of state anxiety arising from an impending procedure.

Preoperative anxiety begins as soon as the procedure is planned and peaks on the day of surgery when the patient enters the hospital. The realization of going into surgery can create anxiety, and to some extent a patient may also get worried about postoperative failures and complications.³ Anxiety before surgery is not only an uncomfortable psychological state but can be associated with physiological responses including tachycardia, hypertension, elevated temperature, sweating, nausea, and a heightened sense of touch, smell, or hearing.^{4,5}

Preoperatively, anxious surgical patients often require more anesthesia. Although certain sedatives are often prescribed to relieve preoperative anxiety, these drugs have negative side effects such as drowsiness, respiratory depression, and can adversely interact with anesthetic agents thereby prolonging recovery and delaying patient discharge.^{6–8} Because of anxiety, patients may become aggressive or demanding. This behavior may progress to the point where patients are unable to communicate clearly or follow simple instructions, further hindering their care.⁹

Preoperative anxiety also affects patient satisfaction. One study found that women having higher preoperative anxiety scores had decreased postoperative satisfaction and poorer recovery following elective cesarean section operations.¹⁰ Furthermore, medically treating preoperative anxiety not only alleviates the unpleasant feelings of anxiety but also leads to improved patient satisfaction.¹¹

In fact, research has shown that preoperative anxiety is linked to success rates of performed surgical procedures and postoperative complaints.¹² Preoperative anxiety causes elevated cortisol levels, which is associated with a longer wound healing time, diminished immune responses, increased infection rates, as well as fluid and electrolyte imbalances with possible perioperative and postoperative repercussions.^{13,14} Patients with higher levels of preoperative anxiety have been shown to have increased postoperative pain, higher postoperative analgesic consumption, longer hospital stays, poorer outcomes, decreased sense of well-being, and trouble cooperating with self-care activities.^{14–16} Certain risk factors such as sex have been associated with higher rates of preoperative anxiety; being female was by far the most consistent risk factor for anxiety among all studies.^{17–19} Additional risk factors for preoperative anxiety are listed in [Table 1](#). While

many other factors seem to influence preoperative anxiety, surgery at a hospital or freestanding ambulatory surgery center does not appear to affect patient anxiety levels.²¹ Furthermore, studies have found that between 21% and 77% of patients are anxious during the preoperative period.^{22–24} Given this high incidence, it is recommended that surgeons identify patients experiencing “excessive” surgical anxiety and take the appropriate measures to improve outcomes and patient satisfaction.

Standardized Surgical Anxiety Measures

The study of anxiety-reducing interventions in surgical patients requires not only a clear definition of what constitutes anxiety but also a valid and reliable tool for quantifying this emotion. There currently exist many means, both psychiatric and physiological, for measuring anxiety. However, the majority of literature utilizes psychiatric inventories to assess anxiety levels in surgical patients. Routine psychiatric evaluation tools include the State Trait Anxiety Inventory (STAI), Hospital Anxiety and Depression Scale, Amsterdam Preoperative Anxiety and Information Scale (APAIS), Anxiety Visual Analogue Scale (VAS), Beck Anxiety Inventory, Short Form 36, and the General Well-Being Questionnaire. A summary and considerations of the strengths and weakness of these anxiety measures are included in [Table 2](#).

The physiological changes, mentioned earlier, provide an opportunity for objective assessment of preoperative anxiety. Vital signs, including heart rate and blood pressure, were the most commonly used physiologic measures of anxiety in the published literature.^{31–33} In addition to those 2 parameters, one study also recorded respiratory rate and measured serum levels of cortisol and adrenocorticotropic hormone to gauge the level of patient anxiety.³³

Although the number and diversity of anxiety assessments may cast doubt on whether the results of studies utilizing differing anxiety measures are broadly applicable, further investigation has found that many of these assessments are consistent after normalization. The Hospital Anxiety and Depression Scale, STAI, and 100-mm VAS have been shown to have equivalence, after instituting normative cut-off values, in measuring preoperative anxiety in surgical patients.²⁵ Correlation in the measurement of preoperative anxiety has also been shown between the STAI and APAIS.²⁶ Confirming and further expanding on this, equivalence for anxiety was found among APAIS, STAI, and 100-mm VAS.²⁷ Most recently, Facco et al³⁴ reported significant correlation in anxiety levels of surgical patients as measured by VAS and STAI. Furthermore, psychiatric and physiologic measures of anxiety have been found to correspond as well.^{31–33}

In consideration of these correlational reports, many psychiatric and physiological evaluation tools are appropriate for assessing anxiety in the surgical patient. However, because of the cost and invasiveness of physiologic

Table 1 Risk factors for preoperative anxiety^{4,14,19,20}

- Female Sex
- Pre-existing psychiatric disorders
- Pre-existing medical conditions
- Uncertainty about procedure outcomes
- Loss of independence and privacy
- Fear of recovery and death
- History of smoking

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