



REDUCED STRESS & ANXIETY

97% of surgery patients experience preoperative anxiety ¹

Experiencing surgery-related anxiety is a natural reaction to the unpredictable and potentially threatening circumstances typical of the perioperative period. According to a large-scale survey including 120 patients, 97% of surgery patients, aged 18 years or older, experience preoperative anxiety. Main causes of anxiety in the context of day surgery are general anesthetic, waiting in the day surgery unit prior to operation, and possible postoperative pain and discomfort.¹ Being awake during surgery and the sight of the operation theatre were specifically described as anxiety-provoking.² Patient anxiety can have long lasting consequences on patient health and, subsequently, increases in health care cost. Audiovisual distraction provides a preventative solution to intervene before the loop of anxiety takes its course.

Anxiety increases the need for medication, delays the recovery process and causes a prolonged and cost-intensive hospital stay

1. SEDATION

Preoperative anxiety necessitates higher doses of propofol to require an adequate level of sedation **in adults**.⁵ **Likewise 50-75% of children experience intense preoperative anxiety** which is often caused by separation from parents, unfamiliar surroundings and painful procedures in the hospital.³ Anxiety in children can hinder induction and causes a **greater need for sedative medication**.⁴

2. ANALGESICS

A high level of preoperative anxiety is accompanied by **enhanced pain perception and increased consumption of analgesic medication postoperatively**. In fact, preoperative anxiety was found to be directly linked to postoperative pain intensity and independent from patients' general anxiety.⁶ In adults, preoperative anxiety also causes a more painful recovery process.⁸ A comprehensive study investigating 241 children undergoing tonsillectomy and adenoidectomy states that anxious children experience significantly more pain and thus need higher doses of analgesics postoperatively, compared to less anxious children.⁷



3. COMPLICATION

Anxiety is a risk factor for a course of treatment littered with complications. *“Heightened anxiety can lead to complications in the administration of presurgical drugs; it can hinder the induction of anesthesia and has been found to be associated with poorer post-surgical outcomes.”*⁹ Children exhibiting preoperative anxiety were found to experience various behavioural postoperative complications, including nightmares, separation anxiety, eating disorders and enuresis.³ Furthermore, preoperative anxiety and pain perception can delay the postoperative recovery process, thus resulting in a lengthier hospital stay and more follow-up costs.¹⁰

4. DELIRIUM

Preoperative anxiety is a risk factor for emergence delirium and associated cognitive complications.¹¹ Children who are anxious before surgery are eight times more likely to develop delirious states than children who are more relaxed. In fact, incidences of emergence delirium occurred in 9.7% of children being anxious compared to 1.5% of non-anxious children. Postoperatively, anxious children required significantly more codeine and amphetamine as well as suffered from pain, anxiety, and sleep disturbances more often.⁷

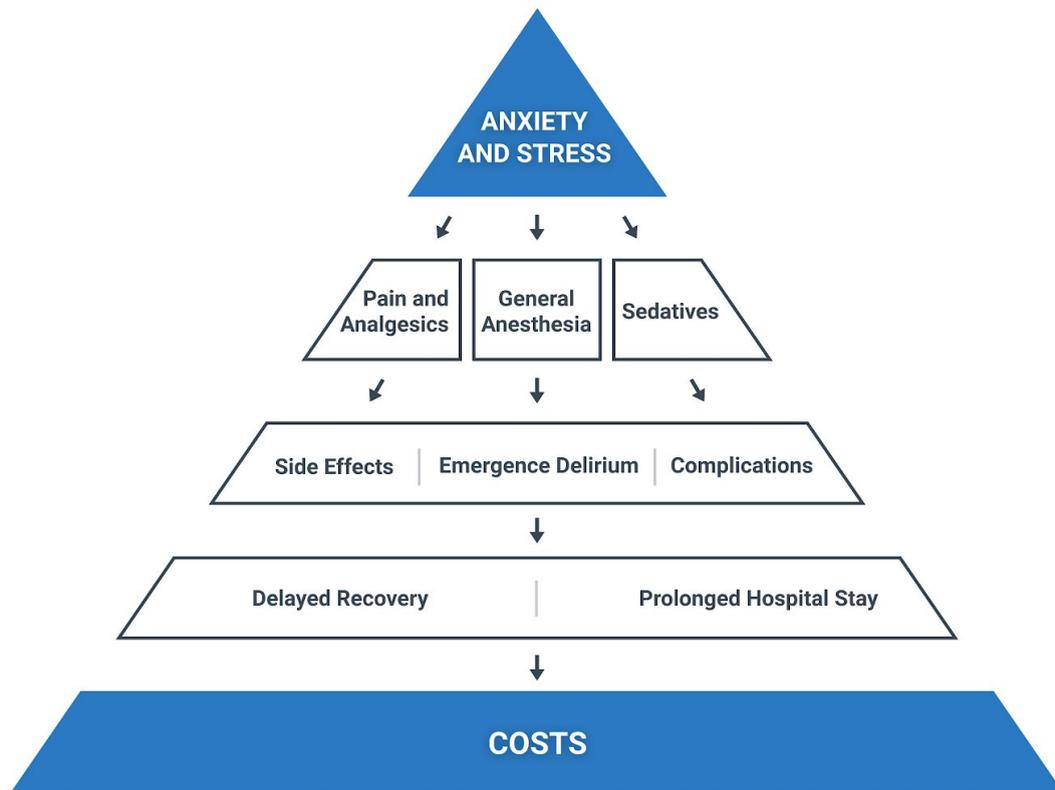
5. PROLONGED HOSPITAL STAY

Excessive levels of anxiety are accompanied by activation of the autonomic nervous system, leading to increased respiratory rate, release of stress hormones and higher levels of pain that may persist into the postoperative period. This can activate proinflammatory pathways and thus **lead to prolonged healing and recovery times.**¹² According to medical records of more than 300 patients, those patients who had a diagnosis of anxiety and took anxiolytics prior to surgery stayed 1.8 days longer at the hospital than patients who were not anxious.¹³ In addition, anxious patients often opt for narcosis rather than local or regional anesthesia.¹⁴ There, serious complications occur significantly more often in comparison to operations under loco-regional anesthesia.¹⁵

6. INCREASED COST

Complication, delirium and other maladaptive behaviours can cause long-term consequences for the patient, a lengthier hospital stay and further health care costs for the hospital site.⁷

The figure below demonstrates the way patient stress and anxiety can lead to increased financial expenditures for hospitals. Heightened anxiety and stress increase patients' subjective pain perception thus leading to higher doses of administered analgesic and sedative medication. When it comes to deciding on an anesthetic procedure, general anesthesia is an anxious patient's first choice. However, the side effects of the medication include procedural complications and cases of emergence delirium occurring more often. As a result, patients need to stay at the hospital significantly longer and, subsequently, result in higher costs for the hospital.



“Audiovisual distraction is an inexpensive, easy to administer and comprehensive method to reduce anxiety and its consequences”⁴

THE PRINCIPAL OF AUDIOVISUAL DISTRACTION

“The brain has limited capacity to process painful, distressing or anxiety-inducing stimuli. When an individual’s attention is shifted towards more pleasant sensations, activation is reduced in the areas of the brain associated with pain.”¹⁶ **Distractioning patients by shifting their attention to films and more pleasant sensations limits the capacity to focus on anxiety** and significantly reduces subjective pain perception by 61%.¹⁷

CLINICALLY PROVEN

- **82% of patients respond that audiovisual distraction reduced their anxiety** during elective limb surgery under regional anaesthesia¹⁸



- For children, viewing animated cartoons has been shown to be very **effective in alleviating preoperative anxiety**, and even more effective than playing with toys ⁴ or traditional distraction methods ¹⁹
- Video distraction significantly **reduces children's anxiety at inhaled induction** and effectively manages anxiety in the preoperative phase when waiting in the holding area ¹⁹
- Film distraction is an effective strategy for **relieving stress and distracting patients during invasive procedures**, such as venipuncture ²⁰
- Audiovisual interventions have been **systematically reviewed and proven as useful** to reduce anxiety in pre-, intra-, and postoperative settings ²¹

“Preoperative anxiety leads to increases in analgesic consumption, prolonged stays in recovery areas, delay in entry to ORs, and longer hospital stays, which together increase suffering and health care costs.

Audiovisual interventions appear to be a promising tool for reducing preoperative anxiety.” ²¹

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