

**Title:**

The Effect of Education on Anxiety in the Pre-Surgical Spine Patient

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**Session Title:**

Health Promotion in the Surgical Patient

**Slot:**

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**Scheduled Time:**

4:15 PM

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**Keywords:**

Anxiety, Education and Pre-Surgical Spine Patient

**References:**

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#### **Abstract Summary:**

This research studied the effect of pre-operative education on a small convenience sample of surgical spine patients in the Southwest region of the United States, revealing that a hospital-based education class provided a statistically significant reduction in anxiety as determined by data collected immediately before and after an education session.

#### **Learning Activity:**

LEARNING OBJECTIVES	EXPANDED CONTENT OUTLINE
1-The learner will be able to identify the impact of back pain on the individual and society	Nursing knowledge and practice can promulgate global health through education that is provided to individual surgical patients. Health care costs are a significant and increasing expenditure that are a result, in part, of the aging population, advancements in diagnosis and treatment options, and an increasing life span. The financial implications of poor outcomes and extended hospitalizations to the family unit and society make pre-surgical education an imperative in the preparation of the surgical candidate. Education that addresses patient concerns and anxieties surrounding the upcoming operation and recuperation may have a positive impact on the patient's perioperative experience as well as a reduction in the financial burden that is associated with poor surgical outcomes.
2-The learner will be able to perceive the psychological and physiological impact of anxiety on the patient and the potential impact	A synopsis of the psychological and physiological consequences of anxiety will be given that clearly defines the potential impact

of anxiety and the stress response on surgical outcomes.	of anxiety on the surgical outcome and recovery of the spine patient.
3-The learner will be able to discuss the effect of nursing education provided prior to surgery on the perioperative experience.	A discussion will be provided that addresses the importance and need of education provided by the nurse educator.

### Abstract Text:

Purpose: The global prevalence of low back pain in industrialized countries is approximately 60% to 70% and is the leading cause of decreased activity and lowered work productivity (Duthey, 2013). The consequences of back pain impose a high economic burden across all social groups: individuals, families, communities, industries, and governments (Duthey, 2013). For patients who fail conservative treatment options that include non-steroidal anti-inflammatory drugs (NSAIDS), muscle relaxants, physical therapy, and epidural steroid injections, surgery is offered due to persistent pain and/or progressive neurological deficit (Goertz et al., 2013; Sutheerayongprasert et al., 2012). The objective of surgery is pain relief and the restoration of lost function towards the end goal of an improvement in the patient's quality of life (McCormick, Werner, & Shimer, 2013). Spine surgery is an anxiety-producing event but is considered a normal aspect of the surgical experience. Anxiety, defined as a feeling of fear that can create worry about future events that may or may not happen, can induce the stress response; stress is the physiological reaction to a situation that requires a physical, emotional, or mental response or adaption. Anxiety that triggers the stress response can adversely impact surgical outcomes (Brand, Munroe, & Gavin, 2013). The physiological changes of stress can create an immunocompromised state, increasing the risk of pneumonia, thrombosis, ileus, and infection. Research conducted in the total joint population has shown a decrease in patient anxiety, an increase in patient confidence and preparation for the upcoming surgical intervention, and shorter hospital stays due to pre-operative education (Kearney, Jennrich, Lyons, Robinson, & Berger, 2011). Jones, et al. (2011) found that pre-operative education reduced the length of hospitalization following total knee arthroplasty without an increase in post-operative surgical complications or hospital readmission. There are positive findings that correlate education with positive patient outcomes in the cardiac, orthopedic, and general surgery specialties but a paucity of research exists concerning the effects of education on anxiety specific to the spine population (Louw, Butler, Diener, & Puentedura, 2012; Papanastassiou, Anderson, Barber, Conover, & Castellvi, 2011). The purpose of this study was to compare the anxiety level of the surgical spine patient before and after attendance at a structured, hospital-based, pre-operative education class from a convenience sample from one orthopedic spine practice in the Southwest region of the United States. The organizing framework utilized two theories: the Environment of Care Theory of Florence Nightingale and the adult learning theory of Malcolm Knowles. Nightingale, in her seminal work *Nursing: What It Is, and What It Is Not*, originally published in 1860, addressed 13 elements of care that was meant for family members in the nursing role and for individuals hired as nurses (Nightingale, 1969). These 13 tenets would become a part of the first nursing theory and the concepts remain relevant to today's nursing care. For example, Tenet II addresses the health of the home. The most significant portion of the post-operative course occurs in the home. Implementation of this concept could reflect home preparations such as rearranging furniture for unobstructed ambulation or removing throw rugs to prevent falls. The second theory utilized for the organizing framework was Malcolm Knowles' Andragogy Theory of Adult Learning that discusses four elements: motivation, previous life experience, the level of involvement in the learning, and how the learning will be utilized (Knowles, 1973). Studies indicate that anxiety causes a reduction in recall and retention of information (Reiter, 2014). This important fact is critical for the nurse educator to consider during development and implementation of an educational offering. Research conducted by Gillis et al. (2014) found that, even without surgical complications, there is a 20% to 40% reduction in physiological and functional capacity. Considering the motivational aspect of adult learning, information given in the pre-operative education class can positively influence an individual's incentive to alter detrimental behaviors ahead of surgery, which also reflects on the level of involvement and application of the learning (Skolasky, Riley, Maggard, Bedi, & Wegener, 2013).

**Methods:** For the purposes of this study, a quantitative, non-experimental, comparative study design was implemented utilizing a nonprobability convenience sample. A single group comparison was employed to see if education had an effect on anxiety. The Visual Analog Scale (VAS) was used due to its simplicity and rapid administration and was scaled from 0 to 100 with 0 being 'Calm' and 100 being 'Anxious'. **Results** of the data revealed a mean pre-education anxiety level of 38.7; mean posteducation anxiety was 25.1. The paired-samples *t*-test showed a significant difference between the pre and post education test scores; the Pearson's *r* was calculated.

**Results:** The results indicated a strong positive correlation between education and anxiety reduction. A statistically significant difference indicates that a pre-operative, hospital-based education class reduces the anxiety level in the surgical spine patient.

**Conclusion:** The limitations of this study include the small population size ( $n=20$ ), single hospital setting, use of clientele from a single orthopedic spine practice, exclusion of an education materials analysis, and the lack of an education delivery methods analysis. Spine patients are highly anxious without regard for the type or extent of the proposed surgery. The implications for nursing practice highlight the importance of education providing information addressing patient concerns. Additionally, the personal interaction between the nurse and patient allows for the start of a healing collaboration. The major fear of the patient is pain and the relief of pain in the post-operative period (Hartley, Neubrandner, and Repede, 2012). Pre-operative education provides the patient the opportunity to verbalize their present experience of pain and concerns about post-operative pain. Anxiety and stress reduction measures introduced with pre-operative education may reduce the impact of the stress response that can potentiate complications during and after surgery. Nurse educators are in a position to help the surgical spine patient by addressing specific concerns beyond the risks and complications that are reviewed by the surgeon as part of an informed consent. Ultimately, it is the result of research findings that help guide nursing practice. Nursing practice that is based on the highest quality research promotes positive patient outcomes and is the main tenet of evidence-based practice and nursing care.