



Associate Professor Nicholas Ralph
PhD, MClinPrac (Perioperative Nursing), RN
Journal Editor

Philip Norris
PhD candidate

ACORN

The Australian College of Perioperative Nurses (ACORN) is a registered Australian company and health promotion charity. It exists to serve its members, the perioperative profession, the patient and the community to promote the prevention and control of disease.

ACORN's vision is for Australian patients to receive the safest and highest quality evidence-based perioperative care in the world.

ACORN Board of Directors

Rebecca East
President

Patricia Flood
Director
Journal Committee Chair
Research Committee Chair

Karen Hay
Director
Conference Committee Chair
Professional advocacy and advisory liaison

Diana Hutt
Director
Standards Committee Chair

Grace Loh
Director
Hospital and University Collaboration and Accreditation Committee Chair
Grants, Awards and Scholarships Committee Chair
International liaison

Paula Foran
Member Director
Membership and Local Associations Liaison Committee Chair

Sophie Ehrlich
Director
Education Programs Committee Chair
Education Committee Co-chair

Donna Stevens
Director
Education Committee Co-chair

Garry Stratton
Director
Finance, Audit and Risk Committee Chair

Editorial

Current opinion about surgery-related fear and anxiety

Undergoing a surgical procedure is a major life event for many and can lead to stressors such as heightened fear and associated anxiety. The fear of undergoing surgery or an invasive medical procedure is correctly termed 'tomophobia' and lifetime prevalence is estimated at 12.8 per cent¹. In Australia, over 2.3 million people report anxiety disorders, with females at greater risk of anxiety (17.9 per cent) than males (10.8 per cent)². With 2.5 million surgical procedures occurring in Australia each year³, an estimated 320 000 Australians experience tomophobia as a surgical patient (assuming prevalence of 12.8 per cent). However, some populations are more likely to experience surgery-related fear and anxiety: especially females⁴⁻⁶, older adults with fewer social supports⁷, those with lower levels of education⁷⁻⁸, those undergoing prolonged or major surgery⁵ and those with fewer overall levels of social support⁹.

For all who experience surgery-related fear and anxiety, the impact of psychological stress is far from trivial. Preoperative fear and anxiety can lead to increased post-operative depression and anxiety¹⁰, prolonged wound healing¹¹⁻¹², extended length of hospital stay¹³, additional dosing of anaesthetic drugs¹⁴ and more use of analgesics after surgery¹⁵. The mechanisms behind these adverse surgical outcomes are likely to involve psychophysiological stress responses associated with preoperative anxiety, the physical trauma of surgery¹⁵, and its influence on post-operative adjustment and recovery¹⁶. However, further

high-quality studies are needed to expand on the associated risks of tomophobia in surgery patients. With the evidence indicating the condition is both widespread and leads to surgical complications, how can we address surgery-related fear and anxiety?

Firstly, there is a need to preoperatively screen patients appropriately. In a 2014 cross-sectional study, preoperative anxiety screening is recommended for all patients to both identify the extent of the problem and report surgical complications associated with the condition¹⁷. Several validated surveys are specifically available for surgery-related fear and anxiety including the Amsterdam preoperative anxiety and information scale (APAIS)¹⁸, bypass grafting fear scale (BGFS)¹⁹ and the surgery stress scale (SSS) for knee surgery²⁰. Several generic scales are also available including the state-trait anxiety inventory (STAI)²¹ and the hospital anxiety and depression scale which has been validated in the preoperative context^{22,23}. These tools are brief and conducive to most patients being able to complete them independently. However, it is not clear whether all patients should be screened or a subset of those most at risk of preoperative anxiety (i.e. females, older adults, patients undergoing prolonged or major surgery, and those with lower levels of education and social support).

Secondly, there is a need to better understand what interventions are effective for reducing preoperative fear and anxiety. The longstanding association between surgery and psychological stress including fear

and anxiety is well known²⁴ and leads to the argument that the stressors of surgery may be modifiable by psychological or supportive care interventions. However, few effective interventions are available to treat surgery-related fear and anxiety. In a 2015 systematic review of preoperative interventions to reduce anxiety and improve surgical recovery, the effects of educational interventions were inconclusive²⁵. A 2016 study showed that individualised empathic interviewing yielded reductions in overall patient anxiety and improvements in recovery time, wound healing and patient satisfaction²⁶ while a similar psychosocial intervention led to reduced anxiety in cardiac surgery patients²⁷. For children undergoing surgical procedures, audio-visual interventions appear to be effective for reducing fear and anxiety associated with surgery²⁸. Throughout the literature, the importance of integrating sources of social support for patients such as family and friends into the care process is emphasised^{6,9} indicating a place for family-centred care in the perioperative environment.

Implications

Although studies correlating surgery-related anxiety and fear with a range of adverse outcomes is weak, both evidence and logic indicate preoperative anxiety is a widespread condition which needs addressing. Current practice in treating anxiety appears to range from psychoeducation²⁸ to sedation¹⁴. For the latter, sedating people without first appealing to their humanity and honouring the privilege of caring for people at their most vulnerable reflects perioperative care at its least caring.

Interventions for surgery-related anxiety represent an opportunity to improve care by perioperative

nurses taking leadership in treating it as they would any other condition. Although proving both the clinical and economic benefits of such interventions is necessary, there is a need to move beyond long-standing, self-limiting professional concepts in which technical skills trump holism. This means perioperative nurses must prioritise the provision of nursing care ahead of passing instruments. There is ample evidence to suggest operative outcomes can be improved through optimising healthy behaviours that enhance nutrition, exercise, sleep and psychological well-being; however, the role of perioperative nurses in these contexts is under-researched and therefore under-developed. With so many perioperative initiatives working towards optimising surgical outcomes²⁹⁻³², it is time that nurses become enterprising and develop interventions targeting the plethora of unmet needs among people undergoing surgery.

References

- Schmid M, Wolf RC, Freudenmann RW, Schönfeldt-Lecuona C. Tomophobia, the phobic fear caused by an invasive medical procedure – an emerging anxiety disorder: A case report. *J Med Case Rep* 2009;18(3):131.
- Department of Health. Prevalence of mental disorders in the Australian population [Internet]. Canberra: Department of Health; 2009 [cited 2018 October]. Available from: www.health.gov.au/internet/publications/publishing.nsf/Content/mental-pubs-m-mhaust2-toc-mental-pubs-m-mhaust2-hig-mental-pubs-m-mhaust2-hig-pre.
- Australian Institute of Health and Welfare (AIHW). Australia's Health 2012: In Brief. AIHW; 2012.
- Perks A, Chakravarti S, Manninen P. Preoperative anxiety in neurosurgical patients. *J neurosurg anesthesiol*. 2009;21(2):127–30.
- Jawaid M, Mushtaq A, Mukhtar S, Khan Z. Preoperative anxiety before elective surgery. *Neurosciences (Riyadh, Saudi Arabia)*. 2007;12(2):145–148.
- Karanci AN, Dirik G. Predictors of pre- and post-operative anxiety in emergency surgery patients. *J Psychosom Res* 2003;55(4):363–369.
- Chan CW, Hon HC, Chien WT, Lopez V. Social support and coping in Chinese patients undergoing cancer surgery. *Cancer Nurs* 2004;27(3):230–236.
- Celik F, Edipoglu IS. Evaluation of preoperative anxiety and fear of anesthesia using APAIS score. *Eur J Med Res* 2018;23:41.
- Lincoln KD, Chatters LM, Taylor RJ. Social support, traumatic events, and depressive symptoms among African Americans. *J Marriage Family*. 2005;67(3):754–766.
- Zieger M, Schwarz R, König HH, Harter M, Riedel-Heller SG. Depression and anxiety in patients undergoing herniated disc surgery: Relevant but underresearched – a systematic review. *Cent Eur Neurosurg*. 2010;71(1):26–34.
- Christian LM, Graham JE, Padgett DA, Glaser R, Kiecolt-Glaser JK. Stress and wound healing. *Neuroimmunomodulation*. 2006;13(5-6):337–346.
- Vileikyte L. Stress and wound healing. *Clin Dermatol*. 2007;25(1):49–55.
- Stirling L, Raab G, Alder EM, Robertson F. Randomized trial of essential oils to reduce perioperative patient anxiety: Feasibility study. *J Adv Nurs* 2007;60(5):494–501.
- Maranets I, Kain ZN. Preoperative anxiety and intraoperative anesthetic requirements. *Anesth Analg* 1999;89(6):1346–1351.
- Munafo MR, Stevenson J. Anxiety and surgical recovery. Reinterpreting the literature. *J Psychosom Res* 2001;51(4):589–596.
- Wallace LM. Preoperative state anxiety as a mediator of psychological adjustment to and recovery from surgery. *Br J Med Psychol* 1986;59(3):253–261.
- Theunissen M, Peters ML, Schouten EGW, Fiddelaers AAA, Willemsen MGA, Pinto PR et al. Validation of the surgical fear questionnaire in adult patients waiting for elective surgery. *PLOS ONE* 2014;9(6):e100225.
- Moerman N, van Dam FS, Muller MJ, Oosting H. The Amsterdam Preoperative Anxiety and Information Scale (APAIS). *Anesth Analg* 1996;82(3):445–451.
- Koivula M, Tarkka M-T, Tarkka M, Laipala P, Paunonen-Ilmonen M. Fear and in-hospital social support for coronary artery bypass grafting patients on the day before surgery. *Int J Nurs Stud* 2002;39(4):415–427.
- Rosenberger PH, Kerns R, Jokl P, Ickovics JR. Mood and attitude predict pain outcomes following arthroscopic knee surgery. *Ann Behav Med* 2009;37(1):70–76.
- Spielberger CD. Chapter 14. Conceptual and methodological issues in anxiety research. In: Spielberger CD (ed). *Anxiety*. New York: Academic Press, 1972, 481–493.

22. Zigmond AS, Snaith RP. The hospital anxiety and depression scale. *Acta Psychiatr Scand* 1983;67(6):361–370.
23. Hicks JA, Jenkins JG. The measurement of preoperative anxiety. *J R Soc Med* 1988;81(9):517–519.
24. Salmon P. Psychological factors in surgical stress: Implications for management. *Clin Psychol Rev* 1992;12(7):681–704.
25. Guo P. Preoperative education interventions to reduce anxiety and improve recovery among cardiac surgery patients: A review of randomised controlled trials. *J Clin Nurs* 2015;24(1–2):34–46.
26. Pereira L, Figueiredo-Braga M, Carvalho IP. Preoperative anxiety in ambulatory surgery: The impact of an empathic patient-centered approach on psychological and clinical outcomes. *Patient Educ Couns* 2016;99(5):733–738.
27. Heilmann C, Stotz U, Burbaum C, Feuchtinger J, Leonhart R, Siepe M et al. Short-term intervention to reduce anxiety before coronary artery bypass surgery – a randomised controlled trial. *J Clin Nurs* 2016;25(3–4):351–61.
28. Chow CHT, Van Lieshout RJ, Schmidt LA, Dobson KG, Buckley N. Systematic review: Audiovisual interventions for reducing preoperative anxiety in children undergoing elective surgery. *J Pediatr Psychol* 2016;41(2):182–203.
29. Ralph N. Editorial: Engaging with research and evidence is a nursing priority so why are ‘everyday’ nurses not reading the literature? *Journal of Perioperative Nursing* 2017;30(3):3–5.
30. Duff J, Walker K, Edward KL, Ralph N, Giandinoto JA, Alexander K et al. Effect of a thermal care bundle on the prevention, detection and treatment of perioperative inadvertent hypothermia. *J Clin Nurs* 2018;27(5–6):1239–49.
31. Ralph N, Duff J. Editorial: Enhanced Recovery After Surgery (ERAS) protocols – an opportunity for improved care and enhanced scope of practice? *Journal of Perioperative Nursing* 2017;30(2):3–4.
32. Ralph N, Eager A. Editorial: Post-operative oxygen supplementation: Can it prevent surgical site infections? *Journal of Perioperative Nursing* 2017;30(4):3–4.