



Evidence-Based Practice Guidelines for Prevention of Post-Operative Delirium in High-risk Elderly Population

Laila Budhwani DNP, CRNA

University of St. Francis

3672 White Eagle Drive, Naperville, IL 60564

630-545-1233

laila.a.Budhwani@gmail.com

Introduction

Delirium is one of the most common postoperative complications in patients aged 65 years and older. 40% of these cases are preventable. Therefore, preventative efforts need to be directed to institute evidence-based interventions throughout the pre, intra and postoperative phases to prevent this common complication causing physical, emotional and financial strain for the patients, families and the healthcare systems.

Formulation of Practice Guidelines: An example of translational research

Evidence-based practice guidelines were formulated comprising of a series of interventions to be implemented in pre-operative, intra-operative and post-operative phase to help with prevention, early recognition and treatment of post-operative delirium.

The Method

A systematic review with basic inclusion and exclusion criteria was conducted using CINHAL, Medline, and Cochrane databases.

The Practice Guidelines Pre-operative Interventions

- Use of cognitive assessment tool - Mini-cognitive assessment test
- Patient morbidity risk stratification.
- Communication of high-risk status.



Intra-operative Interventions

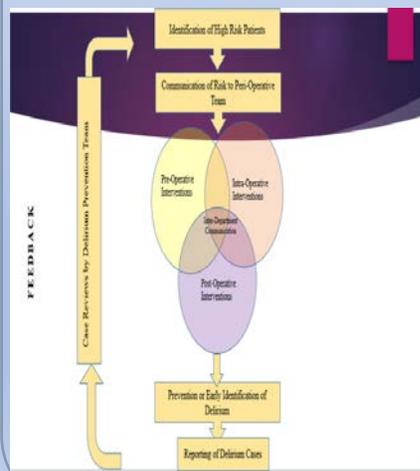
- Avoid use of Benzodiazepines.
- Prefer Regional over General anesthesia.
- Adequate muscle relaxation reversal
- Use of Bi-spectral index (BIS) analysis of electroencephalogram (EEG).
- Use of cerebral tissue oximetry via near-infrared spectroscopy (NIRS).



Post-operative Interventions

- Early detection.
- Maintenance of patient's sleep-wake cycle.
- Continuation of pre-op medications.
- Multi-modal post-operative pain management.
- Noise-free environment.
- Early provision of assisting devices - glasses, dentures, hearing aids etc.

The Budhwani Conceptual Framework



Conclusion

Prophylaxis and treatment of POD both requires a multicomponent intervention program. From performing cognitive testing pre-operatively to initiating interventions once high risk patients are identified, nurses can play an essential role in preventing POD. Practice Guidelines based on the utilization of these interventions can prove to be beneficial for healthcare institutions.

References

Bickler, P., Feiner, J., Rollins, M., & Meng, L. (2017). Tissue oximetry and clinical outcomes. *Anesthesia and Analgesia*, 124(1), 72-83.

Brooks, P. B. (2013). Postoperative delirium in elderly patients. *AJN American Journal of Nursing*, 112(9), 38-51.

Gajdos, C., Kile, D., Hawn, M. T., Finlayson, E., Henderson, W. G., & Robinson, T. N. (2015). The significance of preoperative impaired sensorium on surgical outcomes in nonemergent general surgical operations. *JAMA Surgery*, 150(1), 30-36. doi: 10.1001/jamasurg.2014.863

Guenther, U., Riedel, L., & Radtke, F. M. (2016). Patients prone for postoperative delirium: Preoperative assessment, perioperative prophylaxis, postoperative treatment. *Current Opinion in Anesthesiology*, 20(1), 1-6. doi: 10.1097/COA.0000000000000259

Moyce, Z., Rodseth, R. N., & Bicard, B. M. (2014). The efficacy of peri-operative interventions to decrease postoperative delirium in non-cardiac surgery: A systematic review and meta-analysis. *Anesthesia*, 69(3), 259-269. doi: 10.1111/anae.12539

Postoperative delirium in older adults: Best practice statement from the American geriatrics society. (2015). *Journal of the American College of Surgeons*, 220(2), 136-148. doi: 10.1016/j.jamcollsurg.2014.10.019

Radtke, F. M., Franck, M., Lendner, J., Krüger, S., Wernecke, K. D., & Spies, C. D. (2013). Monitoring depth of anesthesia in a randomized trial decreases the rate of postoperative delirium but not postoperative cognitive dysfunction. *BJA: The British Journal of Anaesthesia*, 110, 198-205. doi: 10.1093/bja/aet055

Smith, B. (2013). Delirium issues in elderly surgical patients. *AORN Journal*, 96(1), 75-85. doi: 10.1016/j.aorn.2012.03.019