Grace Peterson Nursing Research Colloquium

Aug 18th, 10:00 AM - 11:30 AM

Intra-operative Awareness with Recall under General Anesthesia

Kelly Lannert  
*DePaul University, kellylannert@gmail.com*

Dulcie Schippa  
*DePaul University, dulcieschippa@msn.com*

Follow this and additional works at: [https://via.library.depaul.edu/nursing-colloquium](https://via.library.depaul.edu/nursing-colloquium)

🔗 Part of the Other Nursing Commons

[https://via.library.depaul.edu/nursing-colloquium/2017/Summer_2017/60](https://via.library.depaul.edu/nursing-colloquium/2017/Summer_2017/60)

This Event is brought to you for free and open access by the School of Nursing at Via Sapientiae. It has been accepted for inclusion in Grace Peterson Nursing Research Colloquium by an authorized administrator of Via Sapientiae. For more information, please contact digitalservices@depaul.edu.
**Intra-operative Awareness with Recall**

Kelly Lannert RN, BSN, NAT & Dulcie Schippa RN, BSN, NAT  
NorthShore University HealthSystems

## Abstract

Intra-operative awareness recall (AWR) is a well studied risk of general anesthesia (GA) accepted by anesthesia practitioners. A gap was identified between the perceived knowledge and practice related to AWR. The purpose of this quality improvement project (QIP) was to attempt to improve perceived knowledge and comfort related to assessment, evaluation and treatment of patients with AWR. To accomplish this, we disseminated an educational voice over power point (VOPP) to anesthesia practitioners at NorthShore University HealthSystem, including the following content: 1) a tool to assess for AWR 2) establish an appropriate timeline for assessment and 3) present resources available to assist in treatment of AWR sequelae. The efficacy of the educational VOPP was measured by comparing results from Likert-type pre and post-education surveys. Recommendations and conclusions are based on the results of the study.

## Background

The Joint Commission (JC) defined AWR as “an unintended intra-operative awareness” occurring under GA (2004). “The patient becomes cognizant of some or all events during surgery or a procedure, and has direct recall of those events. Because of the routine use of neuromuscular blocking agents...the patient is often unable to communicate with the surgical team if this occurs,” (JC, 2004). In 2004, the JC issued a sentinel event alert in order to notify anesthesia practitioners of the severity of this problem. Multiple studies have shown AWR incidence to be between 1,100 and 1,200,000, dependent on patients and procedures (Cook et al, 2014, p. 2; AANA, 2012). The subsequent impact of AWR for the patient includes nightmares, anxiety, depression, post-traumatic stress disorder (PTSD) and avoidance of future surgical intervention. Given the potentially catastrophic, psychological sequelae of AWR and the difficulty treating PTSD, there is a strong motivation to prevent AWR from ever occurring.” (Avidan & Malekour, 2013, p. 449).

The purpose of this quality improvement project (QIP) was to attempt to improve perceived knowledge and comfort related to assessment, evaluation, and treatment of patients with AWR.

## Methods

The QIP utilized an online, quasi-experimental pre- and post-test design. Anesthesia practitioners were surveyed prior to the VOPP intervention in order to gather baseline perceived knowledge regarding AWR. Second, those surveyed received an interventional online educational VOPP. Following the educational VOPP, a post-survey was given in order to assess reports of improved perceived knowledge and comfort related to AWR.

Our target population included nurse anesthesia trainees (NAT) in at least their first clinical rotation at the NorthShore University HealthSystem (NUHS) site, anesthesia residents, certified registered nurse anesthetists and attending anesthesiologists between 25 and 70 years old, practicing GA in the NUHS. NUHS anesthesia practitioners meeting these inclusion criteria account for 120 potential participants and 30 are comprised of NATs and anesthesia residents being hosted by a NUHS site, yielding an absolute maximum expected entered number of 150.

A recruitment e-mail and information sheet including secure links to the validated surveys and the VOPP, was given to Dr. Kapanke to disseminate amongst anesthesia practitioners that met inclusion criteria, followed by 2 reminders at 2 weeks and one month. The survey results were securely downloaded into Qualtrics. Participation was voluntary and confidential.

**N=24**

## Results

**Overall Results:**

Pre-survey of perceived knowledge, comfort and attitudes on AWR resulted a M = 2.59; SD = 0.45.

Post-survey of perceived knowledge, comfort and attitudes on AWR resulted a M = 3.41; SD = 0.29.

**Subset Analyses:**

**Perceived knowledge**

M=3.71  
SD=2.61  
Cohen d=1.466  
Cronbach alpha=0.72

**Perceived comfort**

M=3.71  
SD=1.86  
Cohen d=1.17  
Cronbach’s alpha=0.85

**Attitude**

Inadequate Cronbach’s alpha; no analysis

There was no statistically significant difference in perceived knowledge of AWR in subsets

Age (t=0.090; df=23; p=0.909)

Experience (t= -7.185; df=23; p=0.975)

## Discussion

Results from the pre- and post-survey revealed that the mean scores improved after practitioners viewed the AWR VOPP. This supports an increase in perceived knowledge and comfort, closing the gap between knowledge and practice concerning AWR. The QIP did not evaluate if the increased knowledge and comfort resulted in changes in practice; this is possible area future research.

## Conclusions

This QIP showed that the VOPP on AWR was effective in improving the perceived knowledge and comfort of NUSH anesthesia practitioners regarding assessment, evaluation and treatment of AWR. The results are useful indicators for communication and training needs. Although an AWR brochure exists, our VOPP is an enhanced and updated educational module; its electronic nature, improves accessibility by additional and future NUHS anesthesia practitioners. Additional research in alternate settings is needed to provide a broader representation of anesthesia practitioners in the United States. Furthermore, a future analysis would provide insight into experiences of patients and anesthesia practitioners and their communication regarding AWR after initiation of our VOPP educational program as a standard protocol in a local practice setting.

## Limitations

Low response rate  
N=24, 16% of target population  
Limited to NUHS  
Relied on self-reporting

## References


## Acknowledgements

Committee Chair: Bernadette Roche CRNA, EdD  
Committee member: Karen Kapanke DNP, CRNA  
Committee member: Joseph Tariman PhD, RN, ANP-BC, FAAN

## Table 1: Sociodemographic Characteristics of Study Participants

<table>
<thead>
<tr>
<th>Demographic</th>
<th>N (%)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>15 (62.5)</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>8 (33.3)</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High School</td>
<td>17 (68.8)</td>
<td></td>
</tr>
<tr>
<td>College</td>
<td>7 (29.2)</td>
<td></td>
</tr>
<tr>
<td>Years of AWR Experience</td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>15 (62.5)</td>
<td></td>
</tr>
<tr>
<td>1-5 years</td>
<td>6 (25.0)</td>
<td></td>
</tr>
<tr>
<td>6+ years</td>
<td>3 (12.5)</td>
<td></td>
</tr>
<tr>
<td>Did you mentally prepare yourself for surgery?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>20 (83.3)</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>4 (16.7)</td>
<td></td>
</tr>
<tr>
<td>Have you had a patient who has experienced AWR?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>21 (87.5)</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>3 (12.5)</td>
<td></td>
</tr>
</tbody>
</table>