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4-25-2022

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#### Recommended Citation

Ward, Denham S, "Anesthesia Non-Technical Skills in the Operating Room Clinical Learning Environment (ORCLE)" (2022). *Costas T. Lambrew Research Retreat 2022*. 35.

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# Anesthesia Non-Technical Skills in the Operating Room Clinical Learning Environment (ORCLE)

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## PURPOSE/ BACKGROUND

Anesthesia non-technical skills (ANTS) are critically important to patient safety in the operating room<sup>1</sup>. The purpose of this study was to examine the global experience of ANTS in the clinical learning environment of the operating room (OR). Our goal is to answer the research question: “How are ANTS perceived by residents early in their training in the ORCLE?” Ultimately, we wish to use this information to inform curricula to teach ANTS in daily clinical practice.

## METHODS/ APPROACH

The project was conducted in the Anesthesiology residency program at Strong Memorial Hospital (Rochester NY) using a convenience sampling strategy. After obtaining IRB approved informed consent, 13 residents underwent a semi-structured interview at least six months following their orientation to the OR. The interview guide was developed by examination of a validated ANTS tool<sup>2</sup> in the literature with the addition of questions on leadership, managing fatigue, and coping with stress.

### References:

1. Fletcher GCL, McGeorge P, Flin RH, Glavin RJ, Maran NJ. The role of non-technical skills in anaesthesia: A review of current literature. Br J Anaesth 2002;88:418-29.
2. Flin R, Patey R. Non-technical skills for anaesthetists: Developing and applying ANTS. Best Pract Res Clin Anaesthesiol 2011.
3. Clarke V, Braun V. Successful Qualitative Research: A Practical Guide For Beginners., 2013

## ANALYSIS

Interviews were audio-recorded with the full knowledge of the participants, transcribed, deidentified and entered into Atlas.ti. 8.0 software for qualitative analysis. The model for analysis was social constructivist theory using an ethnographic methodology. Theoretical thematic analysis (top down) was used to address the research question using the Braun and Clarke 6-phase framework.<sup>3</sup>

## RESULTS

We identified six themes that characterized how ANTS were used in conjunction with each other in the culture of the ORCLE. **Situational awareness** and **teamwork** are connected by **communication**, facilitating the decision-making process. Familiarity strengthens teamwork and teamwork acts through communication. Teamwork can fall apart when there is production pressure coupled with blaming. When it falls apart, it is difficult to recover. **Leadership** is shared and situational: good leadership allows team members to speak up and challenge decisions while bad leadership prevents such challenges. **Stress** is a normal part of the operating room environment, but it can be incapacitating. **Fatigue** can reduce performance, but residents are unlikely to report it. **These themes are related both to the OR culture and the resident's personal ANTS (Figure).**

## CONCLUSION

Anesthesia non-technical skills are interrelated and overlapping, making a particular taxonomy less important than studying how ANTS are utilized in real clinical situations. Managing fatigue and coping with chronic stress are background skills that need to be better emphasized. The concepts captured by this qualitative reporting will allow for the themes to be incorporated into our ANTS curriculum.

