

Critical Coaching: Guided Reflection in Action in terms of Endotracheal Intubation

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Introduction

- Direct laryngoscopy (DL) and video laryngoscopy (VL) along with endotracheal intubation in sequence for general endotracheal anesthesia (GETA) are important techniques that every anesthetist should be able perform.
- Though described as a routine and simple medical procedure, there are many time sensitive and constantly moving aspects of GETA.
- This tacit process has been consistently taught to students through a balance of patient care and specific educational techniques
- Two concepts which we have identified as critical components of the clinical teaching process are knowing in action (KIA) and reflection in action (RIA)
 - KIA- processes of identifying, retrieving, analyzing, conveying, and employing knowledge in a practical framework
 - RIA- occurs on the spot and focuses on acquiring a new set of perspectives instead of only problem-solving
- Both concepts are important in every teacher-learner relationship, but we would like to understand how these apply to the teaching and learning of D/VL.

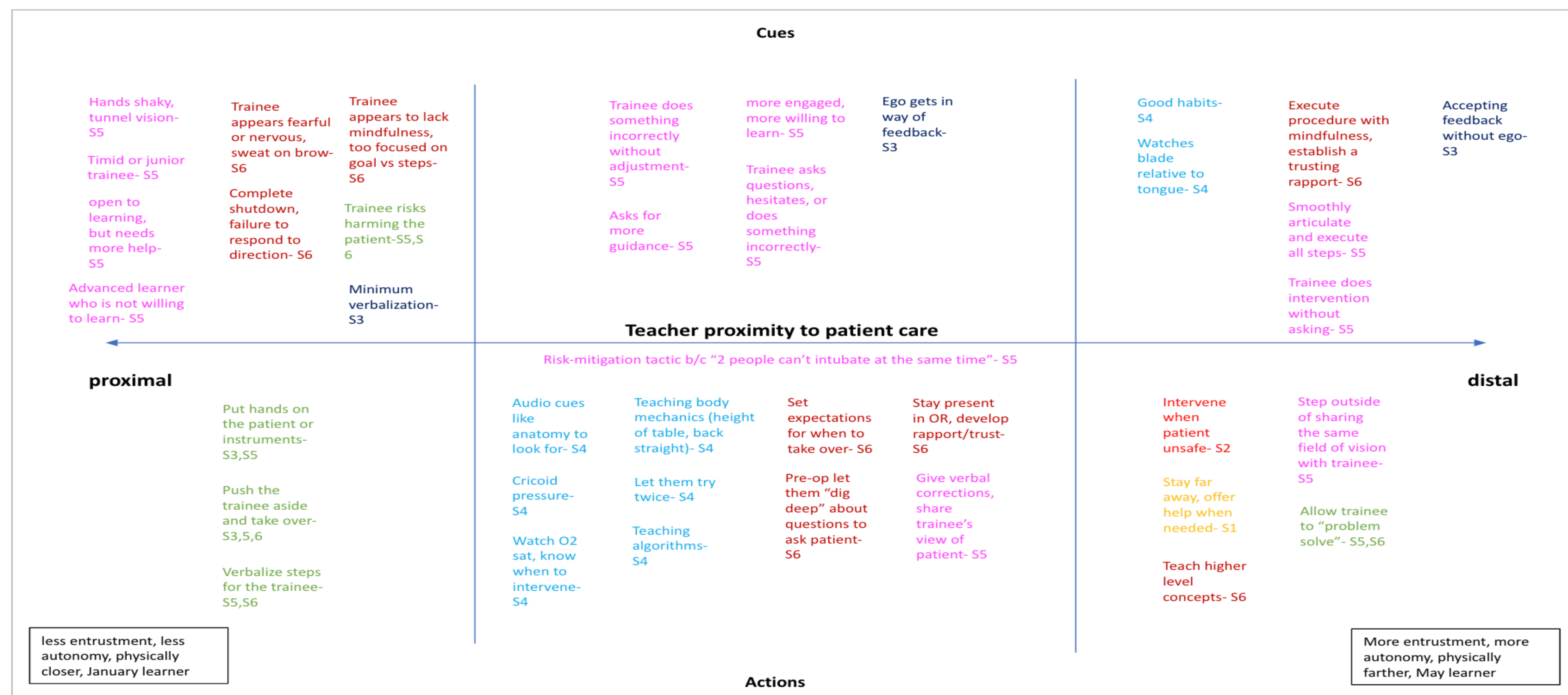
Hypothesis/ Question

How do anesthesia teachers provide guided reflection in action, informed by environmental cues, while teaching clinical skills during time-pressured clinical moments?"

Methodology

- ≤ 20 Expert anesthesia teachers are recruited based on criteria that they are CRNAs or Anesthesiologists at UH and have performed >1000 intubations
- Semi-structured interview is administered to participants over ZOOM/in person once consented, and probes are used to encourage discussion of teaching skills during time pressured situations
- Questions from semi-structured interview:
 - What kinds of trainee actions prompt you to pause and potentially intervene in the trainee's handling of the procedure? Please describe some examples in detail.
 - Probe: Ask for description of the intervention
 - Examples that can be given: Repositioning laryngoscope; way they are manipulating the scope.
 - Give an example of a teaching pattern you have developed over time?
 - Example: If they are stuck, give cricoid pressure. Changing blades or views.
 - Do you tend to see the same learning deficits repeatedly across trainees and engage in the same teaching or scaffolding behaviors that have worked in the past?
- Interviews are later de-identified and transcribed by research team
- Interview transcripts are compared with each other and used to adjust semi-structured interview questions, with the process stopping once data saturation is reached

Results



- Through multiple interviews and several revisions of our semi-structured interview, we were able to create a flowchart detailing the cues (top) evaluated by and actions (bottom) taken by expert anesthesia teachers when teaching students. From left to right, we have placed these action and cues along a continuum based on each teacher's perception of their students' abilities and their willingness to provide entrustment and autonomy to their students. Not only does the continuum evaluate the relationship between teachers and students but also teachers and their "proximity to patient care." The left side represents students with whom less entrustment and autonomy are provided. These students tend to be newer to clinical duties and teachers usually provide more guidance. The right side represents students with whom more entrustment and autonomy are provided. These students have more clinical experience and teachers mostly provide a "hands-off" approach.

Summary

- Our preliminary data has shown that many anesthesia teachers use the same teaching patterns (verbalizing procedure steps, allow for problem solving, assist in physical manipulation of patient) and tend to observe the same learning deficits across trainees (lack of communication, poor body mechanics)
- With better understanding about the teaching of tacit processes, we can improve clinical teaching and accelerate the transfer of knowledge not only related to DL/VL and endotracheal intubation, but also other medical processes
- Knowledge and education provide the foundation for success, and we hope to extrapolate the nuances behind the teaching process so that other teachers may be able to effectively teach their students.

Acknowledgement

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