



# DEVELOPING MEDICAL EXPERTISE THROUGH LEADERSHIP, COMMUNICATION, AND REPAIR



Anahit Malayan<sup>3</sup>, Kasey Kasai<sup>3</sup>, Emily Keshishian<sup>3</sup>, Mario Deng<sup>2,3</sup>, Federica Raia<sup>1,2,3</sup>

<sup>1</sup> GSE&IS, Department of Education-University of California, Los Angeles <sup>2</sup> DGSOM, Department of Medicine-University of California, Los Angeles <sup>3</sup> Relational Ontology & Phenomenology of Practice (ROP&P) Lab-Dr. Raia

## INTRODUCTION

Fellowship programs are teaching spaces where Graduate Medical Education Advanced Heart Failure (AdHF) Fellows develop expertise in their specific field of medicine. Yet expertise develops not through individual, isolated learning but is reliant on teamwork and collaborative practices. Our study examines the practices of Advanced Heart Failure (AdHF) Medicine, where AdHF Fellow doctors, ADHF Attending doctors, and Nurses must work cooperatively to facilitate the development of expertise. The role of AdHF Fellow is to learn the technical skills of performing an endomyocardial biopsy (EMB). These technical skills are supervised by AdHF Attending doctors, who teach the AdHF Fellow how to conduct a proper EMB procedure. The Nurse's role is to monitor the procedure, needing to patient during the procedure.

In this study, expert AdHF Attendings and Nurses must effectively utilize leadership roles, the use of backstage communication, and practitioner repairs to teach inexperienced AdHF Fellows how to conduct their first-year biopies. Teaching by an expert AdHF Attending and Nurse in this space is crucial for an AdHF Fellow because it allows for the expert to demonstrate their knowledge and mentorship through these different modes of instruction. Our research focuses on how experienced AdHF Attendings and Nurses can successfully teach novice AdHF Fellows to become experts in conducting endomyocardial biopsies (EMB). We analyze this teaching structure by employing Dreyfus' model of skill acquisition to our research about expertise and teaching.

## THE RELATIONAL ACT MODEL

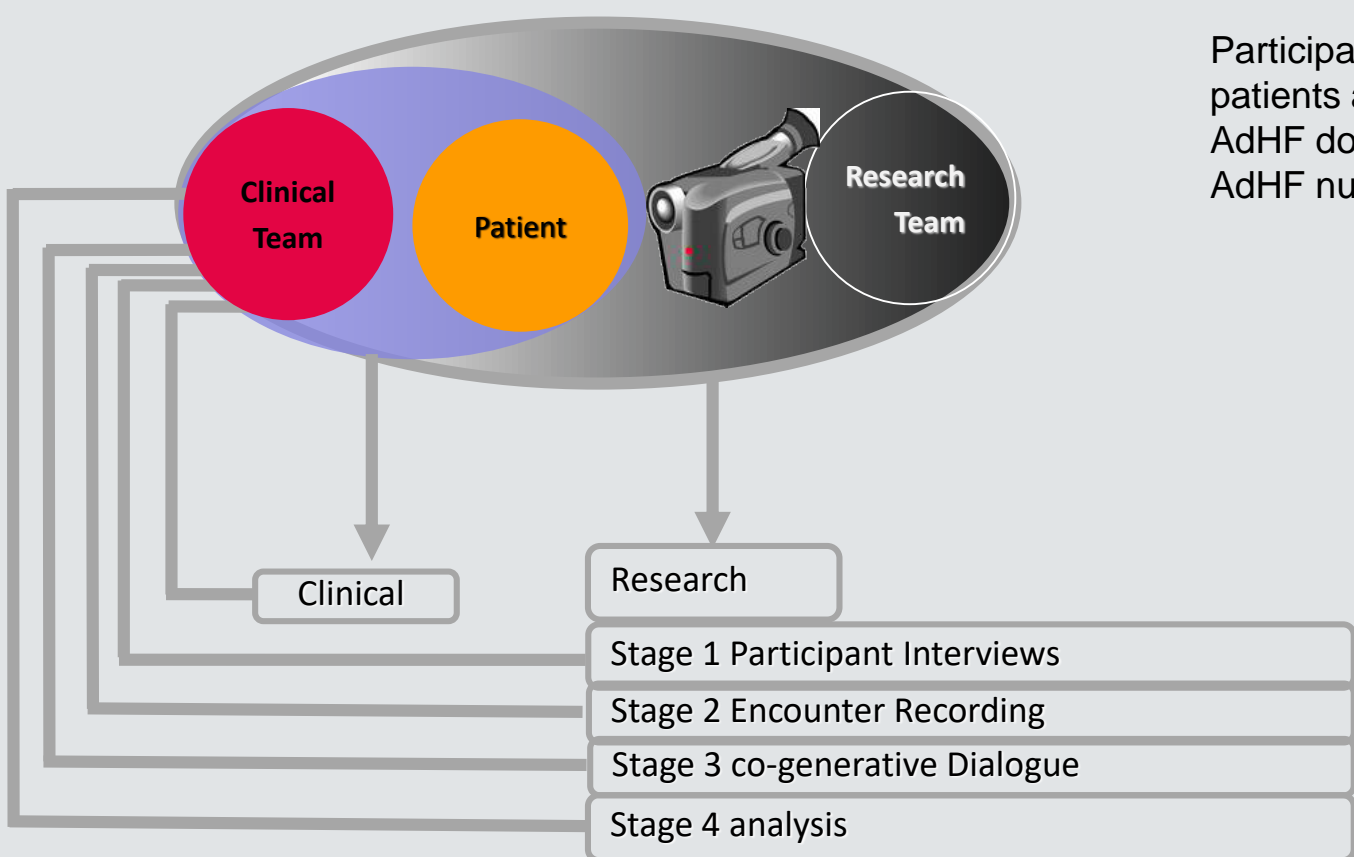


Fig. 1

Our work is part of a larger study in the practices of high-tech modern medicine. We use the RelationalAct iterative model to collect and analyze data. The model is comprised of three stages:

1. Video Recording of heart biopsy procedures.
2. Co-Generative dialogue (Co-Gen) sessions.
3. Cardiologist(s) member of the medical team and whose interactions were recorded in stage 1, participate in weekly 2-hour video recording viewing sessions as a co-researcher with the research team.

Video analysis to unpack the multimodal resources (gesture, gaze, talk, body movements) utilized by participants to organize their conduct and reciprocal accountability.

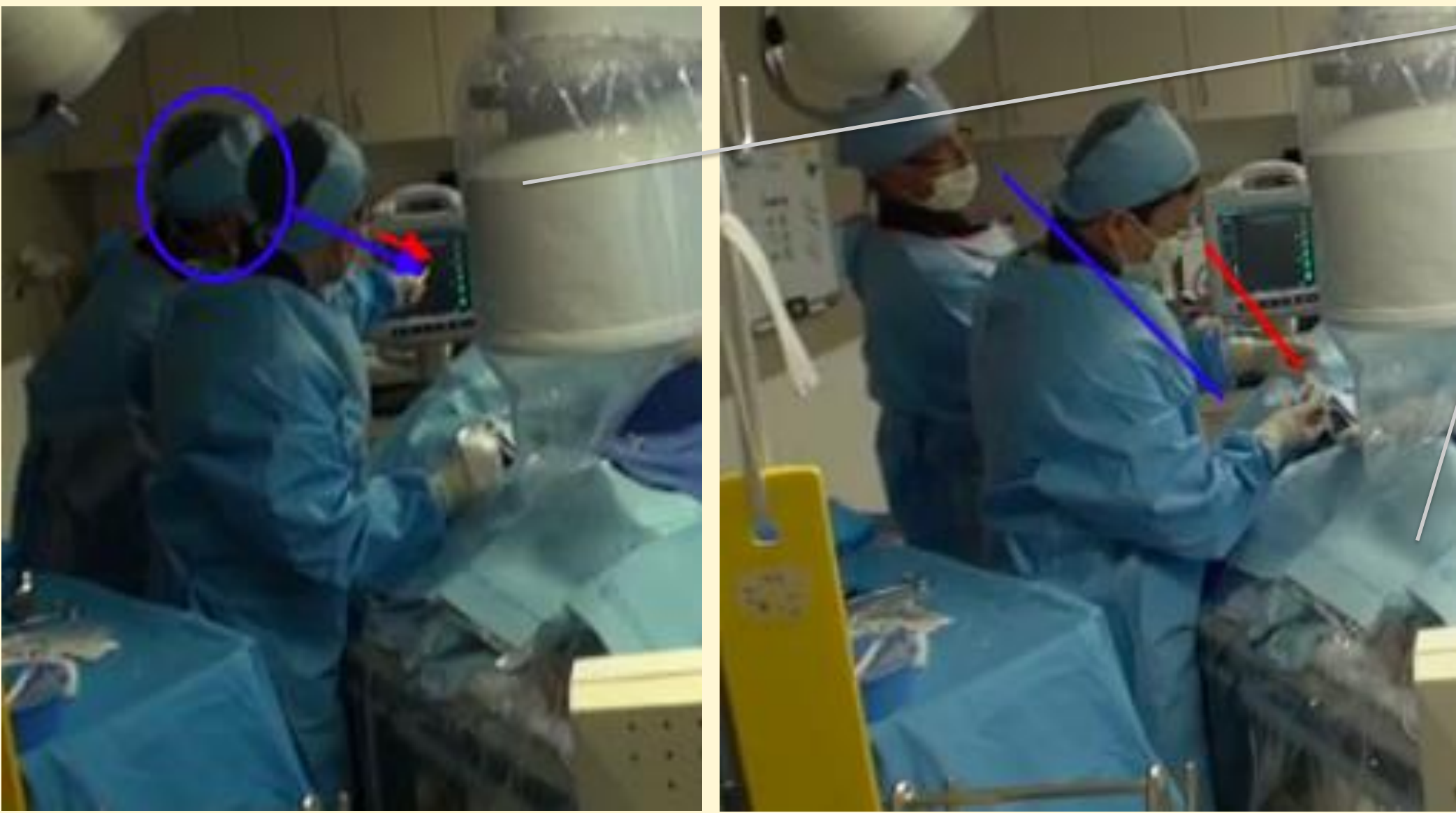
Video data is observed and analyzed with the goal of exploring the interdisciplinary perspectives of the medical team.

## RESEARCH QUESTION

What are some of the most effective teaching techniques used by Attending doctors and Nurses in order to create a supportive environment for Fellow doctors to conduct an efficient biopsy on a patient?

## RESULTS

### Example 1: Leadership



**In Co-Gen Session:** During the co-gen session, the Attending agreed that the Fellow demonstrated proper leadership, by proving his ability to take control of the task at hand and perform this procedure by himself. The Attending addressed the fact that the Fellow did not ask for assistance or guidance as to what the next step should be in this process; he proceeded with confidence and competence. Most of this leadership communication is shown through body language.

### Example 2: Backstage Communication

Backstage communication is the dialogue exchanged only between the medical professionals, the Attending, Fellow, and Nurse; the patient is not involved in this conversation. This form of communication is used when the medical professionals want to discuss medical information without the interference from the patient.



- .....
- 1 Fellow: Let's see um...it's...B Wave of....A  
2 Wave around 15, B Wave around 15A  
3 Nurse: Kay  
4 Fellow: Do you agree [Attending]? With a prominent wide ascend.  
5  
6 Attending: yyyyyyyeah  
7 Nurse: You can make it a little lower, say 14?  
8 say 14 Cam.  
9 Nurse: 14 Good  
10 Attending: B, B 14? What did you say?  
11 Fellow: Well I think the A is also at 14. They look  
12 relatively...do you think it's a bit lower?  
13 You think it's more like at 12?  
14 Attending: Eh hh yeah yeah  
15 Nurse: 12?  
16 Attending: Yeah  
17 Nurse: Okay A of 12, B of 14 prominent ascend

### Example 3: Repair

The Fellow is gaining access into the vein, asking the Nurse to lower the Trendelenburg (tool used to position the patient's body). The Attending is monitoring the Fellow's procedure, while the students in the back are watching the Fellow's procedure as a learning experience. Note: The Nurse verbally informs the patient they are being lowered before starting the task.



- .....
- 1 Fellow: Can we put the Trendelenburg (tool  
2 used to 8 position the body) a little bit?  
3 Nurse: Sure  
4 Fellow: Please  
5 Fellow: Sorry...So we are just gonna put your  
6 head 12 down a little bit, okay?  
7 Patient: Mm-hmm  
8 Nurse: And then I'm gonna pump you up  
9 and put it 15 down again, okay?  
10 Patient: Mm-hmm  
11 Attending: We just want to see the...vessel, the vein,  
12 you know?  
13 Fellow: A bit better. We are making it a bit  
14 bigger.

## DISCUSSION/CONCLUSION

### Example 1: Leadership

Leadership parallels with a sense of management and control in a given scenario. As shown, the Fellow is visibly seen to have full command and lead as he proceeds with the medical procedure in a confident and collected manner. As also suggested by the images, the Attending only briefly looks over the Fellow throughout the procedure and sees no reason to actively interfere or intervene in the Fellow's work. Thus, the Fellow is displaying expertise in his performance, not only shown by his own ability and competence but also verified by the Attending's minimal activity in the situation.

### Example 2: Communication (backstage)

Backstage communication entails hidden or isolated conversation amongst medical professionals without the inclusion of the patient, purposely meant to take place detached from the patient. As demonstrated, a potential reason for the Fellow and Nurse carrying out backstage communication may be the medical, scientific, and technical nature of the material being discussed, seeming unnecessary to include or disturb the patient with. This correlates with medical expertise by means of exhibiting awareness and conducting communication in a backstage manner to progress with the medical procedure while simultaneously knowing when to include and not to include the patient.

### Example 3: Repair

Repair takes place by means of medical professionals improving statements and explanations amongst themselves, taking place step-by-step with the incorporation of each individual. The Fellow demonstrates this by starting this thread of commentary and explanation, while the Nurse and the Attending join shortly thereafter. Gradual elaboration, increase in detail, and improvement in description is recognizable with each individual's contribution and input to the conversation. The statements progress towards becoming more and more thorough and informative, resulting in a more comprehensive and accurate explanation. These actions are collectively indicative of effective patient care and expertise.

## Acquiring Expertise

We were able to identify significant and observable teaching techniques to novice Fellows entering their first EMB procedure, taught by experienced Attendings and Nurses. Our findings can help establish a good baseline for experienced practitioners to effectively educate inexperienced Fellows on how to successfully conduct EMB procedures.

## REFERENCES

- 1) Dreyfus, H. (1997). Chapter 2 Intuitive, Deliberative, and Calculative Models of Expert Performance. New York: The Free Press.
- 2) Heidegger, M. (1962). Being and time (J.Macquarrie & E. Robinson, trans.). New York: Harper.
- 3) Raia, F., & Deng, M. C., (2004). Relational Medicine – Personalizing Modern Healthcare: The Practice of High-Tech Medicine As A Relational Act. Imperial College Press, London.