We Need to Start an Educational Conversation: Frameworks for Orientation Success in the Cardiac Catheterization Lab (Part I)

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There is a significant need for effective orientation frameworks for the cath lab professional. Within the field of educational theory, the emerging appreciation and recognition of adult learning theory, transition programs, and higher reliability principles of experiential learning all illustrate how this need is even more imperative. These components are required to guide an orientation that will protect and sustain safety, efficiency, and quality for patient outcomes, operational efficacy, and staffing stability in the cardiac catheterization lab. These same concepts possess a noteworthy applicability to the practice of interventional procedures. With increasingly higher patient acuity, case and program complexity, and constraints of perceived operational cost, the discussion of the why and how to orient individual team members to the cath lab is more critical than ever.

In the favored, "Cath lab is a well-oiled machine," how do we maximize the orientation process for the newest mechanical additions to the team in order to have sustainability and fluidity in the motor for years to come? Our answer: we do not buy cheap parts or take performance cuts. The same ideological principles must apply to cath lab orientation and foundational knowledge building for new cath lab staff.

The pandemic has revealed a delicate and rapidly changing staffing ecosystem. There is an experience-complexity gap resulting from retirement, burnout, or reallocation of talent due to traveling/financial advancement. Further, laboratory volume during the pandemic experienced a decrease, thus affecting experiential learning for cardiovascular fellows.[1] By whatever means, losing practice opportunities and experienced nurses and technologists can be a staggering loss of a wealth of experiential knowledge not quickly replicated, leaving some labs with a mean experience substructure of less than 3 to 5 years. With that loss, increased operational costs, variability in staff stability, and decreased patient safety are, unsurprisingly, present. Having traveled coast to coast in cath labs for over half a decade, we have observed this scenario occurring in many facilities. There is also a deficit in succession planning as one or more generations of specialty experience retires or leaves the profession. The investment in reframing our orientation process for nurses and interprofessional roles will shape the interventional platform environment. This effort carries the potential to positively support cardiac catheterization lab nursing and interprofessional workforce capital.

In the favored, "Cath lab is a well-oiled machine," how do we maximize the orientation process for the newest mechanical additions to the team in order to have sustainability and fluidity in the motor for years to come? Our answer: we do not buy cheap parts or take performance cuts. The same ideological principles must apply to cath lab orientation and foundational knowledge building for new cath lab staff. We must also invest in current staff's professional development and preceptor knowledge. The cardiac catheterization lab is a diverse, fast-paced, high acuity perioperative environment that utilizes critical care thinking, surgical care mechanics and sterility, emergent care provider autonomy, and interprofessional collaboration. The providers in this area must possess specialty knowledge related to foundational didactic knowledge. This foundational knowledge supports vital clinical care components ranging from adeptness in clinical decision-making to clinical reasoning-centric problem solving due to innovative and evolving equipment, and complex care of often hemodynamically unstable and challenging patients.

As a varied, interprofessional, collaborative ecosystem, all mechanisms must function cohesively to deliver quality, safe care, which occurs only when all professionals work synergistically. This environment includes the physicians, nurses, and technologists (and all variations of this role). To add a layer of complexity to training, a model emphasizing synergy also depends on all individuals knowing and understanding each other's role as they anticipate and execute care interventions in a fluid, synchronized manner.

While there is room for curating and catering a unique orientation experience for diverse learners, the structural framework to orientation must provide the foundational content that generates the cultivation of knowledge, skills, and abilities for specialty staff to achieve superior performance. Through foundational content and learning core concepts that align staff to elements within the specialty that support critical thinking and clinical reasoning, experiential learning can be more comprehensively supported and accelerated. It is important to note how this intertwines with adult learning theory. Adult Learning (andragogy) principles contrast to pedagogy (child learning). Professional adult learners are guided by intrinsic motivation, utilize life experience, and value relevancy.[2] There are many facets to combining operational and educational aspects to ensure the cardiac catheterization lab is efficient and safe, and retains invaluable staff. Regarding educational means, conceptualizing and implementing effective, adult learning theory-based orientation and education can be the first strategy to growing a healthy cath lab environment, including developing interprofessional relationships and respect. Capitalizing the orientation period, harnessing preceptor power, and acknowledging transition theory can enhance new hire staff retention, operationalize educational processes, and safeguard the cardiac catheterization lab team's experiential knowledge, interprofessional collaborative processes, and clinical outcomes.

Identifying a means to capitalize on the orientation period ensures a high return on experiential growth and retention of that knowledge. Maximizing case experiential learning requires foundational didactic knowledge to be built outside of the lab environment so that the cognitive domains of learning — our remembering and understanding — culminate to support critical thinking, clinical reasoning, and the development of clinical judgment. Noticing, interpreting, responding, and reflecting observable behavior[3] and the didactic foundational knowledge that has been built can generate a highly effective cath lab professional. For the most experienced cath lab professional, it is the goal for new hires to develop the intuitive ability to "see the room" and anticipate needs.

A second facet cultivates invested staff and harnesses the power of the preceptor. While effective preceptorship in the current orientation model results in trained professionals, it is dependent on the preceptor's foundational knowledge, skillset, and acuity complexity experience. By providing a standardized orientation didactic framework, mitigation of any deficits incurred by preceptor variance can be successful while enhancing experiential case learning and effectiveness for preceptor and orientee learner during cases. Variance in healthcare has emerged as a topic of interest. Within specialty programs such as the cardiac catheterization lab, preceptorship can be affected by an experience complexity gap as determined by the mean experience of the cath lab and the acuity of programs within the cardiac catheterization lab. The traditional "over the shoulder" preceptor model variance in efficacy can be mitigated by applying foundational concept teaching.

Transition theory describes the delicate timeframe extending past the initial formal, structured orientation.[4] The transition of professionals to the rigorous environment of the cardiac cath lab has to be a component of preceptors and leadership "checks" from the end of formal orientation to the year marker.

Acknowledging and integrating transition theory into the process and timeframe of staff orientation and onboarding programs creates an effective conduit for new-hire staff retention. Transition theory describes the delicate timeframe extending past the initial formal, structured orientation.[4] The transition of professionals to the rigorous environment of the cardiac cath lab has to be a component of preceptors and leadership "checks" from the end of formal orientation to the year marker. This period is the differentiation of mentoring to facilitate success and retention, and initial onboarding coaching/precepting.[2] The stages of transitions theory illustrates this sensitive timeframe, which provides a roadmap from the initial hire of a new nurse/new professional to the year marker. Although initially applied to the newly licensed nurse, these principles and challenges have emerged as a significant component in nursing education.

Using the theoretical construct of transition shock with the utilization of evidence-based new graduate nurse residency programs further highlights the need to engage the experienced nurse with support and tools for specialty practice transition in the collective force of education and training. As new specialty professionals, the staff is challenged with an expansive scope of emotional, cognitive, professional, and sociocultural changes within the transition period.[4] The efficacy of new graduate nurse transition programs illustrates the application of fellowship specialty programs as a succession planning strategy for the surgical and interventional procedures platform.

Through defining the experienced professional's program for orientation and onboarding, the term fellowship is utilized to delineate experienced professional programs versus new graduate professional programs. In application, the transition shock model allows for the recognition of roles, responsibilities, relationships, and knowledge that both motivate and mediate the intensity and duration of the experience. A practical orientation framework and experience intertwine education, training, and competency.

Education, training, and competency are distinct elements that are inaccurately categorized as the same ideology. Understanding each will be the first step in facilitating effective management of all. Without normalized oversight of these distinctions, the perpetual, perfunctory orientation cycle persists. Education is the receiving of instruction and information generating the retention of informative knowledge. Training is the instructional practice of gaining a skillset or critical cognitive processing skill, either in psychomotor technical skill or technical recognition and identification. Competency is the evaluation of an individual's capacity to execute or apply the education or training. The achievement of the highest quality of knowledge, skills, and abilities in the cardiac cath lab has the potential to be cultivated through conducting core foundational courses to support experiential learning and increase critical unit-based subject matter expert's engagement in the cath lab environment.

Specialty orientation and educational planning must combine and cultivate an environment of operational support and structured foundational knowledge to ensure high quality outcomes, staff retention, orientation, continued educational efficacy, and patient safety. Additionally, preceptor growth opportunities can be facilitated through active participation in the orientation experiential learning and didactic framework. Preceptor growth requires support from leadership, and educational tools for new hire and preceptor relationship cultivation. Support and the use of foundational learning topics and content for new staff allow for reinforcement and topic refreshers for existing staff to generate conversation for current clinical practice and guidelines, stimulating cognition and adult learning interest.

Through a continued educational conversation, standards of clinical practice can be cultivated to strengthen succession planning, staff retention, care delivery, interprofessional relationships, and patient outcomes. A comprehensive framework and the execution of these principles for orientation and educational programming will be expounded upon in the second installation of our discussion:

Next month:

The Cardiac Catheterization Platform Core Curriculum for Interprofessional Education Standards and Professional Development (Part II) ■

References

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