Advancement of Athletic Training Clinical Education Through Preceptor-Led Instructional Strategies

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Context: Athletic training programs blend didactic experiences with clinical practice opportunities with varied patient populations. Traditionally, clinical education relies heavily on the preceptor to supervise, instruct, and mentor the professional athletic training student (P-ATS) during clinical education.

Objective: To describe a preceptor-led educational technique focused on creating meaningful clinical experiences that guide the P-ATS to self-reflect and improve clinical decision-making.

Background: Preceptors are expected to create an effective learning environment at their clinical site that prepares the P-ATS for independent clinical practice, yet some authentic patient encounters and administrative tasks may not be possible because of the nature of the clinical site. By implementing novel clinical education techniques that mimic clinical practice, the P-ATS can engage in meaningful clinical experiences in a safe environment, which aids in professional readiness for independent clinical practice that address learner goals and deficiencies in areas with minimal opportunities for real-time encounters.

Description: The preceptor designed educational techniques to cultivate meaningful clinical experiences that included incognito standardized patient encounters, structured debriefing, and reflective journaling.

Clinical Advantages: A 3-fold benefit exists. First, the P-ATS engages in meaningful clinical experiences to enhance professional readiness for replication of independent clinical practice. Second, the P-ATS develops soft skills, such as metacognitive reflection and quality improvement strategies, after completing the debrief sessions and reflective journaling. Lastly, the preceptor shares contemporary expertise through designing and implementing instructional strategies that mentor the P-ATS through difficult conversations and unique patient presentations.

Conclusions: Implementation of novel instructional strategies within clinical education demonstrates the ability for the P-ATS to engage in real-time clinical experiences in a safe environment and under the guidance of the preceptor.

Key Words: Incognito standardized patient, debriefing, reflective journaling

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KEY POINTS

- Professional athletic training program administrators and preceptors should consider incorporating novel clinical education techniques such as incognito standardized patients, structured debriefing, and reflective journaling to cultivate clinical education experiences for the professional athletic training student.
- The use of novel clinical education techniques can provide professional athletic training students with the opportunity to practice clinical decision-making skills that prepare them for independent clinical practice.
- The use of the preceptor-led instructional strategies led to improvements in self-reported confidence scores following the incognito encounters and 8-week clinical experience.

INTRODUCTION

Athletic training programs blend didactic experiences with clinical practice opportunities with varied patient populations as a means to develop learners ready for independent clinical practice. Previous research has identified that professional athletic training students (P-ATSs) often cite clinical education as an integral component while perceiving 50% to 70% of their professional preparation attributed to this dedicated time.¹⁻⁴ However, research has also identified that P-ATSs spend a majority of their clinical experiences unengaged in clinical activities.^{3,5} Traditionally, clinical education relies heavily on the preceptor to supervise, instruct, and mentor the P-ATS during clinical education.⁶ Preceptors are expected to create an effective learning environment at their clinical site with intentions to prepare the P-ATS for independent clinical practice, yet some authentic patient encounters and day-today tasks may not be possible because of the nature of the clinical site.^{2,7} As such, P-ATSs report clinical deficiencies in areas with minimal opportunities for meaningful encounters such as health care administrative tasks during their transition to practice.^{8,9} Previous research has identified that preceptors in athletic training turn to simulations when real-time opportunities are not available to assess P-ATSs' abilities to meet their current curricular content standards.¹⁰ A simulation is defined as a scenario or clinical situation in which the P-ATS evaluates a mock patient role-played by a peer P-ATS or a preceptor without training to portray the injury or condition in a consistent manner.⁷ However, this instructional strategy is not recommended during clinical education when assessing clinical proficiency.7 The literature recommends educators integrate "valid and reliable evaluation methods, such as SPs [standardized patients], to evaluate the student's performance of clinical proficiencies."7(p638)

Standardized patient encounters are becoming exceedingly more common in health education programs.^{11–19} The development of an SP encounter is a thorough and rigorous process, which often takes several weeks of planning and training before implementation.^{20–24} Through SP encounters, students are able to develop confidence,^{13,25–27} improve clinical reasoning,^{13,17} collaborate¹⁴ and communicate interprofessionally,²⁸ and positively impact learner motivation^{27,29} and clinical skill acquisition.^{13,27,29,30} Standardized patient encounters also provide each of these learning outcomes in an a safe environment resembling clinical practice.¹⁵

As the landscape of athletic training clinical education standards evolve,³¹ novel education techniques like incognito SPs, otherwise known as unannounced SPs, can be introduced to the P-ATS. Similar to SPs, incognito SPs allow for an SP encounter, but within experiences at the clinical site led by the preceptor using the preceptor's patient panel. By creating a positive learning environment, athletic training clinical education can enhance the quality and quantity of meaningful clinical experiences.³² The purpose of this educational technique is to describe a case series of preceptor-led instructional strategies implemented into clinical experience outside of real-time patient encounters.

TECHNIQUE DESCRIPTION

The technique description will be outlined around 2 P-ATS case examples during the 2018–2019 school year. Each P-ATS was matriculating through a baccalaureate-level degree program as a fourth-year (senior-level) student. Each P-ATS was assigned as the sole learner to a preceptor, with one P-ATS during the fall 2018 semester (8 weeks) and one P-ATS during the spring 2019 semester (8 weeks), without previous knowledge that incognito SP encounters would be occurring during the P-ATS's clinical rotation. The preceptor (C.A.B.) was an athletic trainer providing medical services to a National Collegiate Athletic Association Division I men's basketball team with a small patient panel (n = 14) at a Midwestern university. According to the institution where the preceptor completed the educational technique, this project did not need research ethics approval in accordance with the 2019 requirements of the Common Rule and the federal definition of research.33

Incognito SP Encounters

The incognito SP encounters were tailored to goals established during the orientation/onboarding process between the preceptor and the P-ATS. Previous research has identified that student goal setting during clinical education promotes self-direction.³⁴ The incognito SP encounters reflected domain II, examination, assessment, and diagnosis, and/or domain V, health care administration and professional responsibility, of the Board of Certification Practice Analysis, 7th edition.³⁵

To measure the effectiveness of the incognito SP, several tools were used before or after the experience. The SP Outcomes Assessment–Confidence²⁵ is a 17-item clinical education evaluation tool used to assess P-ATS confidence related to SP encounters. This outcome measure was collected at various time points throughout each P-ATS's clinical education with

the preceptor (start of clinical education, before/after incognito SPs, biweekly, and conclusion of clinical education). The outcome measures to assess before an incognito SP were collected as the biweekly assessment in order to avoid any potential for the P-ATS to anticipate an incognito SP. A statistical analysis was performed using SPSS (Version 25; IBM, Armonk, NY) for the measures of central tendency and follow-up paired-samples t test comparing pre– and post–SP encounters per P-ATS. In addition, we calculated percentage change scores from the initial time point to the final time point of clinical education to convey the magnitude of the demonstrated improvement.

The Lasater Clinical Judgement Rubric³⁶ is a clinical education tool developed in nursing education to assess clinical decision-making and reasoning. This 11-item rubric assesses 4 different processes; noticing, interpreting, responding, and reflecting. Each item is scored on a 1 to 4 Likert scale (beginning, developing, accomplished, and exemplary). Adamson et al³⁷ report interrater reliability (intraclass correlation coefficient = 0.889) and interrater reliability agreements ranging from 92% to 96%. This outcome was assessed after each incognito SP representing domain II. Next, the SP Evaluation Tool is a clinical education tool, validated through Delphi panel technique, used to assess the integration of the Institute of Medicine's core competencies of health care in SP encounters. This tool scores each core competency of health care plus overall evaluation on a 5-point Likert scale ranging from novice to expert. This outcome was assessed after each incognito SP representing domain II. Finally, the Patient Assessment Questionnaire³⁸ is a clinical education tool used to assess the delivery of health care in an SP encounter from the patient's point of view. The Patient Assessment Questionnaire consists of 10 items scored on a 5-point Likert scale where scores range from 1 (poor) to 5 (excellent). This outcome was measured after each incognito SP representing domain II.

Case 1: Tommy. Orientation of the P-ATS at Clinical Site. At the beginning of the clinical rotation, Tommy was brought in for an orientation meeting with the clinical preceptor. The orientation meeting included facility tours, emergency action plan walk-through, review of policy and procedure manual, discussion of preceptor-student expectations, clinical site rules, and development of student goals. Some goals developed by Tommy and the preceptor included (1) completion of medical documentation, (2) conversations with coaches and physicians, and (3) completion of an independent concussion evaluation. These goals drove the instructional strategies for Tommy's clinical experience, which revolved around the development of concussion-based incognito SP encounters where Tommy was responsible for the primary evaluation as well as the initial phone consultation with the medical director and verbal updates to the coaching staff.

Incognito SP Encounter 1A: Concussion Evaluation. Incognito SP encounter 1A was selected based on Tommy's identifying lack of engagement in examination, assessment, and diagnosis of concussions in clinical education. The goal of the incognito SP encounter was to establish baseline knowledge on Tommy's ability to examine, assess, and diagnose a concussion under supervised autonomy. This case was developed using a multistep approach. First, case details were extracted and modified from a real patient encounter by the preceptor (C.A.B.). Next, the case was cross-referenced to literature supporting clinical presentation validation. Finally, the developed case was reviewed by the authors (Z.K.W., L.E.E.). After validation, a patient from the preceptor's primary patient population was selected and trained to be the incognito SP actor. Training of the patient included 2 sessions. The first session began with education provided regarding the purpose of incognito SPs and the role the patient would portray, and consent to partake in the process was established. Next, the patient was assessed on knowledge related to concussions and education was provided to ensure the patient understood the process of reporting concussion-like symptoms, the evaluation process, and potential interaction with the P-ATS. Then, the case details were provided to the patient in the form of printed copies. The case details included a completed SP actor script and the Sport Concussion Assessment Tool 5. The information was reviewed with the patient and all questions were answered. The patient was instructed to take the resources home and study them. A follow-up session was conducted where the patient ran through the concussion assessment with the preceptor in order to ensure the patient understood how to accurately present the subjective and objective portions of the evaluation during the incognito SP encounter. The incognito SP encounter was executed after practice by the patient entering the athletic training facility wishing to discuss performance issues related to academics and sport. The case was referred to Tommy by the preceptor. The medical director of athletic training services and the patient's coaching staff were informed of the incognito SP encounter and prepared for Tommy to provide information that would be pertinent to each respective party.

Incognito SP Encounter 1B: Concussion Reevaluation. Incognito SP encounter 1B was selected based on Tommy's clinical performance during the first incognito SP and student reflection on lack of preparedness for concussion examination, assessment, and diagnosis. The preceptor also had interest in evaluating clinical improvement after debriefing, reflective journaling, and education sessions during clinical education. Case development, training, and execution for incognito SP encounter 1B followed the same procedures as for incognito SP case 1A.

Case 2: Brian. Orientation of the P-ATS at Clinical Site. At the beginning of the clinical rotation, Brian was brought in for an orientation meeting with the clinical preceptor. The orientation meeting included facility tours, emergency action plan walk-through, review of policy and procedure manual, discussion of preceptor-student expectations, clinical site rules, and development of student goals. Some goals developed by Brian during orientation, which drove the development of instructional strategies, included (1) conversations with physicians, (2) increasing knowledge related to the Health Insurance Portability and Accountability Act of 1996, (3) understanding of organizational policy and procedure, and (4) emergency action plan rehearsal.

Incognito SP Encounter 2A: Blood-Borne Pathogen Exposure. In incognito SP encounter 2A, the patient case was selected based on Brian's interest in clinical experiences that highlight domain V, health care administration and professional responsibility. For incognito SP encounter 2A, the preceptor developed a patient encounter that challenged Brian's ability to follow policy and procedures. A case was developed to expose the P-ATS to blood-borne pathogens

Table 1. Structured Debriefing Prompts

Describe for me what you think the clinical experience was from your perspective? What do you feel went well?

What do you feel did not go well?

- Reflect on the clinical reasoning for [insert specific action] in this clinical situation.
- What could you do differently if you were in the same clinical experience again?
- Try putting yourself in the shoes of the patient(s) or stakeholder(s): how do you think they understand and perceive the actions and outcomes of the clinical experience?

(BBPs) to assess his willingness to report the exposure. The purpose of case 2A was uniquely tied to the P-ATS's progression from interdependence to independent care during his clinical education.³¹ First, case details were extracted and modified from a real patient encounter by the preceptor (C.A.B.). Next, the case was cross-referenced to literature supporting clinical presentation validation. Finally, the developed case was reviewed by the authors (Z.K.W., L.E.E.). A member of the support staff from the clinical site was chosen to act out the case. The support staff member was provided with resources regarding the case and detailed instruction on how to interact with Brian and cause BBP exposure. The support staff member was dressed in stage blood and another support staff member went to find Brian and ask for first aid assistance while the preceptor was "unavailable."

Incognito SP Encounter 2B: Emergency Action Plan Activation—Cervical Spine Injury. The second incognito SP case was selected on the same motive as case 2A. The second case was developed to challenge Brian's ability to follow policy and procedure. A case was developed in which the preceptor was preoccupied providing cervical spine stabilization to an incognito SP. The preceptor requested Brian use the preceptor's phone to activate the clinical site emergency action plan and initiate the chain of communication to inform institutional stakeholders of an emergency situation involving a student-athlete. The case details were developed from clinical knowledge of the preceptor (C.A.B.). Next, the case was cross-referenced to literature supporting clinical presentation validation. The case was developed by training a patient to act out a potential cervical spine injury. Another student-athlete was trained to "fake call" public safety and request paramedics so Brian would not actually call. The director of athletic training services was informed of the scenario and agreed to take a phone call from Brian. This would allow Brian the opportunity to follow organizational policy and procedure while practicing skills communicating with stakeholders.

Structured Debriefing

A structured debriefing session was used to engage the P-ATS in meta-cognitive thinking, self-reflection, and dialogue related to clinical decision-making. The list of structured debriefing prompts is provided in Table 1. Ultimately, the structured debriefing allowed the P-ATS to reflect upon what went well, what he would have done differently, and how it influences future experiences in both the short and long

term.^{12,39-41} The debriefing format closely followed the Diamond Debrief model commonly used in simulation-based learning, which scaffolds the feedback through describing the encounter, analyzing the nontechnical skills, and applying the experience to future situations.42 For the purpose of this instructional strategy throughout the 8-week clinical rotation, the preceptor initiated structured debriefing sessions if the P-ATS (1) made a clinical decision during a real-time patient encounter, (2) had a significant success or failure in patient care, (3) had a significant success or failure in communication with a stakeholder, (4) expressed that the clinical experience was meaningful to him, or (5) requested a debrief. Over the course of an 8-week clinical assignment, Tommy engaged in 21 debriefing sessions and Brian engaged in 22. Because of the nature of the structured debriefing sessions, data were not collected on the effectiveness of the debriefing sessions, but rather tied to enhancing the professional development gained from meaningful clinical experiences. Structured debriefs were tied to incognito SP case outcome measures, as an SP encounter should never occur without a debriefing session.

Reflective Journaling

Reflective journaling was used to engage the P-ATS in metacognitive thinking and self-reflection after meaningful clinical experiences. Previous research has identified that after clinical experiences, the most important aspect is reflection.³⁴ Specifically, reflection should be incorporated through journaling to emphasize the decision-making process and the decision itself.³⁴ The P-ATS was asked to complete reflective journaling on a biweekly basis. Reflective journal prompts were developed and disseminated using Qualtrics (Provo, UT). Journal prompts served a double purpose: to acquire qualitative data to assess the efficacy of incognito SPs and debriefing from both the P-ATS and preceptor perspectives.

OUTCOMES

Incognito SP Encounters

SP Outcome Assessment-Confidence Tool. Each P-ATS completed pre- and post-incognito SP encounter selfconfidence evaluations. Overall, Brian experienced perceived confidence improvements after the incognito SPs, with a significant difference noted for incognito SP encounter 2A (P = .020). However, Tommy experienced a perceived improvement for encounter 1A (mean difference = 0.29), but not for 1B (mean difference = -0.12; Table 2). Table 3 demonstrates the pooled data for both P-ATSs for both of their encounters for a total of 4 data points, with the 7 areas of improvement italicized. In total, the reported improvements were in 7 evaluated items, with "providing patient education" as the largest improvement. Additionally, 7 items had no change between encounters, and for 3 items the P-ATS reported decreased levels of confidence after incognito SP encounters. Finally, overall confidence scores (Table 4) were tracked throughout the 8-week duration of the clinical site assignment for each P-ATS. When calculating percentage change scores from pre-SP encounter 1 to post-SP encounter 2, we identified that Tommy improved by 15% and Brian improved by 39% over the clinical rotation.

Lasater Clinical Judgement Rubric, SP Evaluation Tool, and Patient Assessment Questionnaire. Both

Table 2. Pre- and Post-Standardized Patient (SP)Encounter Confidence Ratings for All Incognito SPEncounters

	Confidence Rating, Mean \pm SD		
Student	Pre-SP Encounter	Post-SP Encounter	
Tommy Encounter 1A Encounter 1B	$3.88 \pm 0.78 \\ 4.59 \pm 0.51$	4.18 ± 0.64 4.47 ± 0.51	
Brian Encounter 2A Encounter 2B	$\begin{array}{l} 3.59\pm0.71\\ 4.94\pm0.24\end{array}$	3.88 ± 0.33 ^a 5.00 ± 0.00	

^a Denotes significance at P < .05 level.

Tommy and Brian were evaluated by the preceptor (Lasater Clinical Judgement Rubric and SP Evaluation Tool) and the patient (Patient Assessment Questionnaire). These assessments were completed only post-incognito SP encounter and are compared for growth from one incognito SP encounter to the next. Although Tommy and Brian both demonstrated growth in clinical judgement, only Brian demonstrated a change in clinical performance of the core competencies of health care between the first and second incognito SP encounter. Moreover, Tommy and Brian received satisfactory evaluations from the SP patient actor after each incognito SP encounter. Table 5 provides complete data for both cases.

Reflective Journaling

At the completion of the clinical experiences for Tommy and Brian, the reflective journal responses were downloaded and reviewed by the preceptor. In total, Tommy completed 7 of 8 (87.5%) reflective journaling submissions and Brian completed 2 of 8 (25%). Two questions from the reflective journaling prompts have been extracted with supporting statements from the P-ATS and the preceptor related to perceived professional growth and clinical decision-making are provided in Table 6. The preceptor was asked to complete one reflective journaling question coinciding with when students were asked to journal. The preceptor was asked to describe the clinical experiences requiring debriefing. The preceptor also discussed the observed growth in the P-ATS throughout the clinical rotation.

CLINICAL EDUCATION ADVANTAGES

Clinical and Professionalism Skill Development

Standardized patients are a common instructional strategy within didactic education.^{20,25,26,28,30,43} Through SPs, educators can engage students in clinical skills that are not frequently encountered in clinical education, such as psychosocial²⁸ and nonorthopaedic³⁰ evaluations. Incognito SPs are commonly used among other health care professions for realtime assessment of health care delivery and soft skills.^{17,44–46} To the authors' knowledge, no previous literature exists on the use of incognito SPs in athletic training education. The use of incognito SPs allows the preceptor to develop real-time scenarios that can reflect clinical education goals of the athletic training program, the P-ATS, and/or the preceptor. There is already documented evidence supporting that SPs are a valid and reliable instructional tool for assessment of clinical skills⁴³ and for facilitating improvement in the confidence of the P-ATS.²⁵ The outcomes of this instructional strategy case series demonstrate that incognito SPs may improve the confidence of the P-ATS, as well as being an effective way for preceptors to evaluate a student's clinical skills in a realtime environment. Moreover, although an incognito SP is a simulation, the experience is an educational technique used to amplify real experiences with guided experiences to replicate aspects of the clinical environment in an interactive manner. The instructional strategy has the capability to provide the P-ATS with regular learning in the midst of clinical education obstacles such as unengaged downtime.³ Incognito SPs can be tailored directly to clinical education goals to offer well-

Table 3. Pre- and Post-Standardized Patient (SP) Encounter Confidence Scores by Item^a

	Mean	1 ± SD
Confidence Rating Item	Pre-SP Encounter	Post–SP Encounter
Identify questions	4.00 ± 1.15	4.00 ± 0.82
Generate follow-up questions	4.00 ± 1.15	4.00 ± 0.82
Obtained adequate history	4.50 ± 0.58	4.25 ± 0.50
Selecting appropriate palpation	4.50 ± 0.58	4.50 ± 0.58
Selecting special or diagnostic tests	4.25 ± 0.96	4.50 ± 0.58
Interpreting special or diagnostic tests results	4.25 ± 0.96	4.75 ± 0.50
Formulating differential diagnosis	3.75 ± 0.50	4.25 ± 0.50
Formulating treatment plan	4.25 ± 0.50	4.50 ± 0.58
Providing patient education	4.00 ± 0.82	4.75 ± 0.50
Dealing with difficult patients	3.75 ± 1.50	4.25 ± 0.96
Evaluating and treating diverse patients	4.25 ± 1.50	4.50 ± 1.00
Using verbal communication	4.50 ± 0.58	4.50 ± 0.58
Using nonverbal communication	4.50 ± 0.58	4.50 ± 0.58
Using professional language	4.50 ± 0.58	4.50 ± 0.58
Evaluating a patient holistically	4.50 ± 0.58	4.25 ± 0.50
Knowing my limitations and when to refer	4.50 ± 0.58	4.25 ± 0.50
Abilities as an athletic trainer	4.25 ± 0.50	4.25 ± 0.50

^a Italicized items indicate significant improvement.

Table 4. Confidence Scores Over Time^a

	Overall Confidence						
Student	Pre–SP Encounter 1	Post–SP Encounter 1	Week 2	Week 4	Week 6	Pre–SP Encounter 2	Post–SP Encounter 2
Tommy Brian	66 61	71 66	72 66	75 75	77 84	78 84	76 85

Abbreviation: SP, standardized patient.

^a The maximum total score is 85; the minimum score is 17.

Table 5. Incognito Standardized Patient (SP) Evaluation Scores

	Student Score/Maximum Possible Score			
Student	Lasater Clinical Judgement Rubric	SP Evaluation Tool	Patient Assessment Questionnaire	
Tommy SP Encounter 1A SP Encounter 1B	34/44 39/44	9/20 9/20	47/50 48/50	
Brian SP Encounter 2A SP Encounter 2B	29/44 40/44	8/20 14/20	48/50 49/50	

Table 6. Reflective Journaling

Prompts	Supporting Statements
Professional athletic training student responses: Please reflect on your clinical growth and decision making following the experience(s) this week.	 "When things happen at [the clinical site] and we debrief, I can understand a lot better why certain decisions are made so when I'm supposed to make the decision as a certified [athletic trainer] I'm better suited to make it." —Tommy "I feel like I've grown as an athletic training student just based on having these talks and I'm able to talk with my preceptor and dive into his brain on different things and see how he thinks about things. It gives me an edge moving forward because I can develop a similar thought process and understanding on when it's safe and unsafe to hold someone out of play or not." —Tommy "In addition, the second debrief made me think of something that I had not previously thought of as a medical professional. Through the debrief I was able to think of strategies to approach similar difficult conversations or diagnosis." —Brian "I believe that these experiences allowed me to create a better understanding of the importance of collaboration." —Brian
Preceptor responses: Reflect on the clinical experiences that were debriefing this past week including the student's willingness to be open and reflective and progress with clinical decision-making and confidence.	 "Tommy continues to really enjoy debriefing and it reflects in his openness to discuss difficult things and be very reflective of both his own and my decisions. He continues to grow in confidence and his ability to show initiative during his clinical experiences." —Preceptor "Tommy continues to demonstrate increased initiative and engagement during [clinical experiences]. I feel as though it is more open to asking questions and receiving feedback based on the culture which has been developed through our debriefs and reflective journaling. Tommy continues to show appreciation for being able to do more hands-on clinical experience when working with me. He also demonstrates the ability to make clinical decisions on his own." —Preceptor "Brian was not quite as reflective during the [incognito SP] as I expected. I did not seem to think that he did anything wrong with his lack of reporting [blood-borne pathogen] exposure. We discussed OSHA training anduniversal precaution practice habits of other health care providers. Most of Brian's reflection was in patient care. I asked him to brainstorm what [policy and procedure] would have been challenged with this [incognito SP]." —Preceptor "We talked afterwards about how Brian wishes he would have asked the [basketball] managers to leave the [athletic training facility] so that it respected the privacy of the patient. I think these kinds of discussions can be very impactful and memorable after an incognito event like this. Brian continues to demonstrate growth in his decision-making and has verbally expressed how much more confident he feels in

Abbreviation: OSHA, Occupational Safety and Health Administration; SP, standardized patient.

rounded learning experience in both immersive and nonimmersive clinical education rotations. The use of incognito SPs can also provide patient encounters that address clinical education goals that may not be attainable at a given clinical site.

Through proper selection of actors, a preceptor can develop incognito SP encounters that not only facilitate a real-time environment but also demonstrate a high level of fidelity. When the preceptor selects individuals from the clinical site's patient panel to serve as the actors, the P-ATS is less likely to question the legitimacy of the patient encounter. Literature from physician practice indicates that when incognito SPs are properly trained and incorporated in daily patient care, practitioners are less likely to detect a difference.⁴⁷ Moreover, the fidelity of the experience is less likely to be brought into question by the P-ATS, as the unannounced event or situation is occurring in the athletic training facility alongside other providers and stakeholders to whom the P-ATS is accustomed. With traditional SPs, it is reported that learners struggle to suspend reality when faced with an anticipated SP encounter.48 Recent research has also indicated that learners involved in traditional SP encounters experience fear and anxiety from anticipated events.49 Incognito SPs offer an environment that allows a student to navigate around these emotions. For example, the ability to engage in a difficult conversation with a member of the coaching staff, team physicians, or medical directors allows the P-ATS an experience that the P-ATS could replicate in future daily interactions at the clinical site.

Additional ways to address clinical goals and facilitate an appropriate learning environment are through structured debriefing^{11,12,39,40} and reflective journaling.⁵⁰ Each of these instructional strategies has the ability to engage the preceptor and the P-ATS in dialogue to identify strengths, weakness, and areas of interest of established clinical education goals. These strategies also allow for a means to revisit the goals set by the P-ATS at the beginning of a clinical rotation or add new clinical education goals throughout the clinical experience. An example of goal progression and reflection was evidenced by Tommy after his first incognito SP encounter. In incognito SP encounter 1A, the case centered on a patient experiencing a sport-related concussion. The patient's true identity as a nonconcussed student-athlete remained concealed for an extended period of time, thereby requiring Tommy to communicate to the members of the coaching staff that the patient would have to be removed from activity per the institution's concussion protocol. When the time came to communicate to the coaches, Tommy did not feel comfortable completing this task. During the structured debriefing session of this incognito SP encounter, the preceptor created goals centered on developing confidence in the appropriate communication with coaches/support staff for the remainder of the clinical rotation.

Engaging the Student

Preceptors⁵¹ and clinical experiences⁵² play a significant role in the development of athletic training students' excitement for the profession of athletic training. Preceptors have a unique role as they supervise, instruct, and mentor the P-ATS during clinical education.^{6,52} By integrating novel instructional strategies, preceptors can cultivate a clinical learning environment that excites the student to be engaged during clinical education and future involvement in the profession. Additionally, the instructional techniques model to the P-ATS how to develop and integrate self-reflective practices and continuous quality improvement strategies as a clinician. This cultivates a meaningful learning environment within integrate d or immersive clinical experiences to target identified areas of deficiency in a newly credentialed athletic trainer during the transition to practice.^{8,53}

The ability to self-reflect is a key component of health care practice.⁵⁴ New health care graduates face barriers when transitioning to practice,⁸ and metacognition is one way in which these individuals can develop skills to enhance their clinical skills and self-learning.55 Through self-reflection and metacognitive practices, students can develop the ability to act and think professionally, leading to professional readiness for autonomous and collaborative clinical practice.⁵⁴ One way to effectively develop these habits is through debriefing and selfreflection, which can heighten an individual's ability to develop clinical reasoning.^{11,26,39} Simulation is not the only time to capitalize on debriefing. Previous research has proposed that athletic training education include debriefing sessions after meaningful clinical experiences as an informal practice.³⁴ In this educational technique description, we describe the role of structured debriefing sessions. Although the absence of forms and procedures may increase the likelihood of the student to engage in the debriefing session, it is vital that preceptors be trained in debriefing techniques to facilitate honest and nonjudgmental discussions.⁵⁶

Preceptor Education

The 2020 Standards for Accreditation of Professional Athletic Training Programs states that preceptors must be provided with formal preceptor education delivered by the program and identify an area of contemporary expertise.³¹ Professional athletic training programs should consider facilitating training seminars for preceptors to develop incognito SP cases that are unique to the P-ATS's clinical experience and the clinical site. The coordinator of clinical education in professional athletic training programs is directly responsible for preceptor selection, development, and evaluation. Preceptor development could include aspects of this educational technique, including how to facilitate structured debriefing sessions and how to engage students in self-reflective journaling. Moreover, program administrators should consider training preceptors in the facilitation and delivery of effective incognito SP encounters. In this educational technique, experienced athletic training educators extensively trained the preceptor in case development, training of the actor, assessment using validated tools, and facilitating a debriefing session. Additionally, the preceptor himself had previously experienced an SP encounter. Although it was not an incognito SP encounter, the background on how the experience itself is structured to facilitate a learning environment assisted the preceptor in completing his desired tasks.

We suggest professional athletic training programs consider a multifactorial preceptor development and evaluation experience. As program administrators seek methods to identify contemporary expertise in their preceptors, hosting a workshop allows the preceptor to engage in an SP encounter with real-time evaluation from the coordinator of clinical educa-

tion to assist in the selection (and deselection) of quality preceptors. After the SP encounter, we recommend that program administrators task preceptors with self-identifying their contemporary expertise area with consideration of their clinical site. Next, preceptors should develop a case, alongside program administration, that does not commonly present but could be integrated into their clinical practice to supplement the clinical education experiences at the site. It would then be the responsibility of the preceptor to select the appropriate actor within the preceptor's patient panel to train, with consideration for support staff and medical staff, for the experience. In medical education, assessment can be achieved in several forms with varying degrees of difficulty. It is important for athletic training program administrators to work with preceptors to establish which assessment measures adequately reflect their comfort level with clinical assessment. Structured debriefs and reflective journaling are validated assessment measures in medical education and are encouraged as a foundational step in clinical education assessment for preceptors. Ultimately, the use of an incognito SP encounter is possible with directed and guided assistance, respective to the clinical site, from the program.

As professional athletic training education continues to transition from the professional bachelor's to the professional master's degree, programmatic outcomes of incognito SPs should reflect the professional master's education and immersive experiences. To advance these instructional strategies, educators can collaborate with preceptors to use incognito SPs as a means to complement the clinical experience of an immersive experience. Educators can identify the clinical education needs of the student, opportunities of the clinical site, and contemporary expertise of the preceptor to develop content for effective incognito SP encounters. This content can address the individual clinical education needs of the student while filling in gaps in the clinical experiences of the immersive clinical site and complement the contemporary expertise of the preceptor.

Future Technology Integration Considerations

Although the debriefing session, journaling, and incognito SP encounter all occurred in real time, we suggest that preceptors and educators consider incorporating technology into the incognito SP encounter. First, the use of video recording may be an interesting avenue to explore. Levett-Jones and Lapkin¹² discussed the use of video recording for debriefing sessions in health care education as a way to break down specific instances to the learner. The preceptor used video recording for one of Tommy's incognito SP encounters as an opportunity to review the encounter for evaluative purposes and to facilitate the debriefing session. Outside of debriefing, the preceptor and program administration may consider the use of performance video capturing using chest- and headmounted cameras on either the SP or the P-ATSfor a unique point-of-view analysis of oneself providing patient care.

Another area of technology incorporation to consider is bugin-ear coaching. Nottingham et al⁵⁷ detailed the potential improvement of clinical education efficiency while using bugin-ear technology. This technology could also be used by the preceptor to deliver in-the-moment feedback to the patient/ actor during an incognito SP encounter to answer questions the patient/actor may not have been trained for. Finally, preceptors may consider the use of hidden microphones and wireless audio transmitters to have the patient or stakeholder "mic'd up" during the incognito encounter. We believe this technology would be an integral component of difficult conversations with parents, coaches, and patients as the student moves along the developmental continuum of supervision. Considerations for patient privacy is noteworthy and a vital aspect for successful incorporation.

CONCLUSIONS

Through the integration of reflective journaling, structured debriefing sessions, and incognito SPs, the P-ATS can experience a goal-oriented clinical experience regardless of real-time encounters. These instructional strategies provide preceptors with the freedom to address the P-ATS's clinical goals at any given time. Through incognito SP encounter evaluations, there is evidence to demonstrate the improvement in clinical reasoning and decision-making. Furthermore, reported confidence scores and reflective journaling prompts demonstrate a perceived self-confidence improvement after the incognito encounters and 8-week clinical experience. The ability to integrate novel instructional strategies advances the quality of clinical education offered to the P-ATS and allows for greater opportunity to facilitate professional readiness in students.

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REFERENCES

- 1. Berry DC. Using time profiles to examine athletic training students' perceptions of clinical education time: a case study approach. *ICHPER-SD J Res Health Phys Educ Recreation Sport Dance*. 2006;1(1):9.
- 2. Berry DC, Miller MG, Berry LM. Effects of clinical fieldexperience setting on athletic training students' perceived percentage of time spent on active learning. *J Athl Train*. 2004;39(2):176–184.
- Miller MG, Berry DC. An assessment of athletic training students' clinical-placement hours. J Athl Train. 2002;37(suppl 4):S229–S235.
- 4. Dodge TM, Mazerolle SM, Bowman TG. Variability in clinical integration achieved by athletic training students across different clinical sport assignments. *Athl Train Educ J.* 2015;10(1):75–81.
- Harrison JJ, Eberman LE, Games KE, Tripp PM, Valdez D, Winkelmann ZK. Athletic training student clinical education practice analysis [abstract]. *Athl Train Educ J*. 2018;13(1):74.
- 6. Bowman TG, Mazerolle SM, Dodge TM. Mentoring and personal relationships are perceived benefits of serving as an athletic training preceptor. *Athl Train Educ J.* 2013;8(3):35–40.
- 7. Armstrong KJ, Weidner TG, Walker SE. Athletic training approved clinical instructors' reports of real-time opportunities for evaluating clinical proficiencies. *J Athl Train*. 2009;44(6):630–638.
- 8. Carr WD, Volberding J. Employer and employee opinions of thematic deficiencies in new athletic training graduates. *Athl Train Educ J.* 2012;7(2):53–59.

- 9. Mazerolle SM, Whitney M, Eason C. Examining the experiences of athletic trainers as they transition into their first full-time position. *J Sports Med Allied Health Sci.* 2017;2(3):2.
- Armstrong KJ, Walker SE, Weidner T. Simulated patients are predominantly used to teach and evaluate athletic training students' skills: a 10-year follow-up. *Athl Train Educ J*. 2018;13(3):281–289.
- Eppich W, Cheng A. Promoting excellence and reflective learning in simulation (PEARLS): Development and rationale for a blended approach to health care simulation debriefing. *Simul Healthc*. 2015;10(2):106–115.
- Levett-Jones T, Lapkin S. A systematic review of the effectiveness of simulation debriefing in health professional education. *Nurse Educ Today.* 2014;34(6):e58–e63.
- Oh PJ, Jeon KD, Koh MS. The effects of simulation-based learning using standardized patients in nursing students: a metaanalysis. *Nurse Educ Today*. 2015;35(5):e6–e15.
- Anders PL, Scherer YK, Hatton M, Antonson D, Austin-Ketch T, Campbell-Heider N. Using standardized patients to teach interprofessional competencies to dental students. *J Dent Educ*. 2016;80(1):65–72.
- Ohle L, Meadus RJ, Daly M. Standardized patients make it real for nursing students. Paper presented at: Medical Education Scholarship Forum; May 29–30, 2014; St John's, NL, Canada. https://journals.library.mun.ca/ojs/index.php/MESFP/article/ view/1563/1187. Accessed February 17, 2019.
- Mercer L, Ludwig A, Smith J, Erickson L, Manriquez M. The use of standardized patients to increase medical student awareness of and confidence in screening for human trafficking. *Obstet Gynecol.* 2018;132:49S.
- Taormina DP, Zuckerman JD, Karia R, Zabar S, Egol KA, Phillips DP. Clinical skills and professionalism: assessing orthopaedic residents with unannounced standardized patients. *J Surg Educ*. 2018;75(2):427–433.
- Yong-Shian G, Selvarajan S, Chng M-L, Tan C-S, Yobas P. Using standardized patients in enhancing undergraduate students' learning experience in mental health nursing. *Nurse Educ Today*. 2016;45:167–172.
- Smithson J, Bellingan M, Glass B, Mills J. Standardized patients in pharmacy education: an integrative literature review. *Curr Pharm Teach Learn*. 2015;7(6):851–863.
- 20. Walker SE, Weidner TG. The use of standardized patients in athletic training education. *Athl Train Educ J.* 2010;5(2):87–89.
- 21. Armstrong KJ, Walker S. Standardized patients, part 2: developing a case. *Int J Athl Ther Train*. 2011;16(3):24–29.
- Armstrong KJ, Walker S, Jarriel AJ. Standardized patients, part
 assessing student performance. *Int J Athl Ther Train*. 2011;16(4):40–44.
- Walker S, Armstrong KJ. Standardized patients, part 1: teaching interpersonal and clinical skills. *Int J Athl Ther Train*. 2011;16(2):38–41.
- Walker S, Armstrong KJ, Jarriel AJ. Standardized patients, part 4: training. *Int J Athl Ther Train*. 2011;16(5):29–33.
- 25. Armstrong KJ, Jarriel AJ. Standardized patient encounters improved athletic training students' confidence in clinical evaluations. *Athl Train Educ J.* 2015;10(2):113–121.
- 26. Walker S, Weidner T, Armstrong KJ. Standardized patient encounters and individual case-based simulations improve students' confidence and promote reflection: a preliminary study. *Athl Train Educ J.* 2015;10(2):130–137.

- 27. Popp JK, Walker SE. A teaching simulation is effective in improving athletic training students' football helmet facemask removal clinical skills and confidence. *Athl Train Educ J*. 2017;12(4):208–215.
- Walker SE, Weidner TG, Thrasher AB. Small-group standardized patient encounter improves athletic training students' psychosocial intervention and referral skills. *Athl Train Educ J*. 2016;11(1):38–44.
- 29. Doherty-Restrepo JL, Tivener K. Current literature summary: review of high-fidelity simulation in professional education. *Athl Train Educ J.* 2014;9(4):190–192.
- Manspeaker S. Incorporation of standardized patients improves student confidence in evaluating non-orthopedic conditions. Paper presented at: Athletic Training Educator Conference 2019; February 15-17, 2019; Grapevine, TX.
- Commission on Accreditation of Athletic Training Education. 2020 Standards for Accreditation of Professional Athletic Training Programs. Austin, TX: Commission on Accreditation of Athletic Training Education; 2018.
- 32. Van Lunen B, Cavallario J, Walker S, Bay R, Welch Bacon C. Athletic training student application of evidence-based practice during clinical education: a report from the athletic training clinical education network [abstract]. *Athl Train Educ J*. 2018;13(4):390.
- 33. Office for Human Research Protections. Engagement of institutions in human subjects research (2008). US Department of Health & Human Services Web site. https://www.hhs.gov/ ohrp/regulations-and-policy/guidance/guidance-on-engagementof-institutions/index.html. Accessed May 2019.
- 34. Radtke S. A conceptual framework for clinical education in athletic training. *Athl Train Educ J.* 2008;3(2):36–42.
- Henderson J. The 2015 Athletic Trainer Practice Analysis Study. Omaha, NE: Board of Certification; 2015.
- Lasater K. Clinical judgment development: using simulation to create an assessment rubric. J Nurs Educ. 2007;46(11):496–503.
- Adamson KA, Gubrud P, Sideras S, Lasater K. Assessing the reliability, validity, and use of the Lasater Clinical Judgment Rubric: three approaches. J Nurs Educ. 2012;51(2):66–73.
- Abadel FT, Hattab AS. Patients' assessment of professionalism and communication skills of medical graduates. *BMC Med Educ*. 2014;14(1):28.
- Dreifuerst KT. Using debriefing for meaningful learning to foster development of clinical reasoning in simulation. J Nurs Educ. 2012;51(6):326–333.
- Rudolph JW, Simon R, Raemer DB, Eppich WJ. Debriefing as formative assessment: closing performance gaps in medical education. *Acad Emerg Med.* 2008;15(11):1010–1016.
- Sawyer T, Eppich W, Brett-Fleegler M, Grant V, Cheng A. More than one way to debrief: A critical review of healthcare simulation debriefing methods. *Simul Healthc.* 2016;11(3):209– 217.
- 42. Jaye P, Thomas L, Reedy G. "The Diamond": a structure for simulation debrief. *Clin Teach*. 2015;12(3):171–175.
- Armstrong KJ, Jarriel AJ. Standardized patients provide a reliable assessment of athletic training students' clinical skills. *Athl Train Educ J.* 2016;11(2):88–94.
- Feng B, Srinivasan M, Hoffman JR, et al. Physician communication regarding prostate cancer screening: analysis of unannounced standardized patient visits. *Ann Fam Med.* 2013;11(4):315–323.

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- 45. Siminoff LA, Rogers HL, Waller AC, et al. The advantages and challenges of unannounced standardized patient methodology to assess healthcare communication. *Patient Educ Couns*. 2011;82(3):318–324.
- 46. Zabar S, Ark T, Gillespie C, et al. Can unannounced standardized patients assess professionalism and communication skills in the emergency department? *Acad Emerg Med.* 2009;16(9):915–918.
- 47. Rethans JJ, Gorter S, Bokken L, Morrison L. Unannounced standardised patients in real practice: a systematic literature review. *Med Educ*. 2007;41(6):537–549.
- Bush JM, Walker SE, Sims-Koenig KN, Winkelmann ZK, Eberman LE. Postprofessional learners' reflections after a standardized patient encounter and debriefing session. *Athl Train Educ J.* 2019;14(1):55–63.
- Boddicker BD, Neil ER, Winkelmann ZK, Walker SE, Eberman LE. Athletic trainers' preparation, expectations, and outcomes from a standardized patient encounter [abstract]. J Athl Train. 2019;54(suppl 6):S100.
- 50. Epp S. The value of reflective journaling in undergraduate nursing education: a literature review. Int J Nurs Stud. 2008;45(9):1379–1388.

- 51. Dodge TM, Mazerolle SM. Preceptors' influence on athletic training students' development of excitement and commitment to the field of athletic training. *Athl Train Educ J.* 2015;10(1):18–24.
- 52. Mazerolle SM, Dodge T. Role of clinical education experiences on athletic training students' development of professional commitment. *Athl Train Educ J.* 2015;10(2):138–145.
- 53. Walker SE, Thrasher AB, Mazerolle SM. Exploring the perceptions of newly credentialed athletic trainers as they transition to practice. *J Athl Train.* 2016;51(8):601–612.
- Mann K, Gordon J, MacLeod A. Reflection and reflective practice in health professions education: a systematic review. *Adv Health Sci Educ Theory Pract.* 2009;14(4):595–621.
- Kuiper R. Enhancing metacognition through the reflective use of self-regulated learning strategies. J Contin Educ Nurs. 2002;33(2):78–87.
- West JJ, Kraus KL, Armstrong KJ. Preceptor facilitated debriefing improves athletic training student's clinical performance and work efficacy. J Sports Med Allied Health Sci. 2018;4(2):5.
- 57. Nottingham SL, Montgomery MM, Kasamatsu TM. Athletic training student active learning time with and without the use of bug-in-ear technology. *Athl Train Educ J*. 2017;12(4):225–233.