

# Direct Observation in Postgraduate Emergency Medicine Training

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## Abstract

The Emergency Department (ED) represents a unique and important educational environment that allows faculty members to provide in-depth teaching for their learners. Direct observation has a long history in medical undergraduate training, but its use in postgraduate emergency medicine education has not been well documented or studied. There are a number of direct observation assessment tools in use and such tools may be adaptable to the ED setting. Direct observation can be done comprehensively when faculty observers are provided with protected time, and it can also be done in more controlled situations such as simulations and standardized patient scenarios. This article provides an overview of the advantages and disadvantages of direct observation in the ED, and suggests that this time-honored evaluation technique should be further explored and integrated into emergency medicine residency programs.

**Mesh words:** Medical Education, Emergency Medicine, Evaluation, Direct Observation

## Introduction

The direct observation (DO) of physicians-in-training interaction with patients is an ancient practice that is rooted from the times of Hippocrates and Aristotle. Today, this tool continues to be an important component for both teaching and evaluating medical students and residents. The most useful information about the nature and quality of medical work and education is found in the physician-patient interface, and this assertion has been supported in previous medical education studies in the domain of general practice.<sup>1-3</sup>

There is extensive experience and research in the use of DO in medical education, especially in the undergraduate arena.<sup>4-9</sup> This research demonstrates that one of the best ways to detect

and identify deficiencies in interview and examination skills in medical students is through DO. Similar research in the realm of postgraduate emergency medicine (EM) is limited.<sup>10,11</sup> This article provides an overview of DO and its potential application to postgraduate training in EM.

## Review

### *The Emergency Department – an important learning environment*

The emergency department (ED) represents a unique and versatile educational environment that offers features not ordinarily found in

inpatient or ambulatory care settings. Learners in the ED are exposed to a wide variety of clinical presentations in undifferentiated form in a variety of age groups and levels of acuity. This clinical setting also provides exposure to the full spectrum of medical disciplines, and opportunities to examine and teach history-taking and physical examination skills are ever-present. It is in many ways the ideal place for direct observation of medical trainees' performance.

In undergraduate medical education, DO is heavily utilized. Postgraduate teaching in EM is different, typically involving much less DO and much more reliance on case presentation by residents. This later mode of education generally involves residents seeing patients independently followed by a resident-teacher interaction where the resident provides a focused report on the history, physical findings, diagnostic plan, and therapeutic approach. Differential diagnosis, utilization of diagnostic imaging, and documentation is also discussed during the interaction. Residents interact with patients directly and report back to their supervising staff physician with test results, procedural outcomes, patient disposition decisions, and other patient management plans. DO of resident interactions with patients occur infrequently and even less so when learners are considered to be senior residents. Burdick and Schoffstall performed a study in the 1990s that revealed that during their entire first year of EM residency 61% of residents reported that they had been observed taking a history three times or less (19% reported never being observed) and 48% reported that they had been observed performing physical examination three times or less (10% reported never being observed).<sup>12</sup> A study completed by Chisholm et al found that only 3.6% (95% CI = 2.6 to 4.7) of resident-faculty interaction time in the ED was spent on DO.<sup>13</sup>

#### Direct Observation

DO possesses many advantages over other evaluation tools. Behaviors are directly observed in a real clinical setting, and all the aspects of interpersonal dynamics are visible and audible. Observation also includes surveying how environmental characteristics such as the personnel, equipment, and multiple distractions

affect the resident's performance. The artificiality of a "closed" observation environment such as an objective structured clinical exam (OSCE) or the use of standardized patients is eliminated. Since EM faculty in various geographical settings are required to provide 24-hour on-site supervision in the ED, there are a number of opportunities for observation and assessment.

Evaluation of residents by DO in real clinical settings has been used in the past in other disciplines and a variety of tools have been developed (Table 1). The American Board of Internal Medicine's mini-Clinical Evaluation Exercise (mini-CEX) was developed as an important adjunct to training programs.<sup>14</sup> The mini-CEX is a focused, time-limited, scheduled observation program that allows faculty to evaluate residents in patient care situations. The process takes approximately 20 to 30 minutes to complete and can be used by multiple faculty over a broad range of clinical presentations. The structured clinical observation (SCO) program is a similar tool that was derived from a series of brief (less than three minutes) structured observations of medical students while performing clinical activities on pediatric rotations.<sup>15</sup> Other DO assessment methods and instruments include the Davis Observation Code<sup>16</sup>, the Calgary-Cambridge Observation Guides<sup>17</sup>, the Arizona Clinical Interview Rating Scale<sup>18</sup>, and the Brown University Interpersonal Skill Evaluation<sup>19</sup>. One or more of these assessment tools may be adaptable for use in the ED setting. DO can also be more extensive and yield more comprehensive results when the observation period involves several hours using a faculty observer that is free of clinical duties.<sup>20</sup> This approach allows residents to receive a detailed analysis of history-taking and physical examination skills. The protected teaching time enables faculty members to provide unique insights into resident performance that may not be readily apparent during standard clinical interactions. DO can also be used in more controlled environments. Patient simulation<sup>21</sup> can involve robotic mannequins, anatomical laboratories, animal procedure laboratories, computer-based interfaces, virtual reality, and other similar settings. Simulation allows for faculty members to observe resident performance in scripted patient care scenarios without concern for patient safety.

**TABLE 1: Direct Observation Assessment Tools**

Direct Observation Assessment Tool	Description
Mini-Clinical Evaluation Exercise (mini-CEX)	Case specific evaluation method where one faculty member observes a resident with one patient in a 20-minute encounter. Several of these assessments are conducted in various settings.
Structured Clinical Observation	A structured program with guidelines and observation sheets for observing and evaluating history-taking, physical examination, and information-giving.
Davis Observation Code	A 20-item direct observation scale for physician-patient interactions.
Calgary-Cambridge Observation Guides	Observation guides for real-time assessment of the patient interview and co-planning of management with patients.
Arizona Clinical Interview Rating Scale	Assessment of interview skills in the areas of organization, timeline, transitional statements, rapport, and documentation.
Brown University Interpersonal Skill Evaluation (BUISE)	Assessment of communication and interpersonal competencies through direct observation either in the practice setting or via video recordings.

Specific clinical presentations, events, and adverse outcomes can be purposely added to evaluate learners' reactions. Feedback can be provided immediately and intermittently (simulations can be paused). Additionally, procedures can be repeated until proficiency is achieved. Another controlled environment for DO involves the use of standardized patients.<sup>10</sup> This method involves using healthy actors that are trained to simulate a particular disease or injury presentation and process. They may also be real patients trained to present in a standardized manner. These "actors" can be trained to evaluate the learner's performance based on a standardized checklist that includes specific elements of history-taking, physical exam, interpersonal skills, professionalism, and other interactional aspects. At the same time, teaching faculty members may also observe and evaluate the learner's performance. The use of real people as standardized patients has the advantage of providing spontaneous human communication dynamics within the learner-patient interaction.

#### Direct Observation in Emergency Medicine – advantages

The ED offers a number of unique advantages compared to other clinical settings for using DO as a teaching and assessment tool.<sup>11</sup> Staff emergency physicians are present on a 24-hour basis and interact with residents on an ongoing basis compared to other disciplines. They can observe and immediately assess skills. Teaching staff can also request feedback in real time from other ED health care workers members (e.g. nurses) and the patient. The observation is much more extensive in the ED as the faculty member can observe a much broader set of skills beyond the direct patient-resident interaction such as time management, multi-tasking, dealing with interruptions, interaction with other ED staff members, communications with consultants, and telephone consultations with referring physicians. Most importantly, the ED can provide unique clinical situations with learners would otherwise have little, if any, direct experience. These situations include: delivering

bad news, dealing with pre-hospital staff, managing the acutely poisoned or intoxicated

patient, exposure to environmental emergencies, wound management, emergent airway management, interaction with high-risk patients who leave against medical advice, treating and securing acutely psychotic patients, managing multiple system trauma patients, and involvement in disaster preparedness and management.

#### Direct Observation in Emergency Medicine - limitations

There are significant challenges to incorporating an effective DO program in the ED. Despite the 24-hour presence of attending physicians in many settings, it can be difficult for many emergency physician groups to dedicate enough time (especially protected time) for faculty to observe residents in all clinical activities. There are also many instances when EM faculty members are required to perform non-clinical tasks and thus are unable to directly observe the residents. If a clinical preceptor is assigned to work with more than one learner, only limited observation of each learner is possible. When the ED is busy and patient care and flow issues are pressing, faculty members' first priority is to ensure that the quality of care for all the patients in the ED is conducive to the best possible patient care outcomes. In such situations the requirement to teach and observe residents becomes difficult to meet.

The major overall noted weakness of any DO is the Hawthorne effect.<sup>22</sup> It has been suggested that a person's awareness of an observer may intentionally or unintentionally change his or her actions. In the context of DO in medical education, learners will presumably try to perform better than they do when not observed. Despite this limitation, EM educators have indicated that performance deficiencies will become evident over time with repeated DOs.<sup>20</sup>

<sup>23</sup> A related weakness of DO (but not exclusive to it) is the potential for some faculty to be reluctant to rate residents as performing below expectations.<sup>11</sup> Since DO involves immediate face-to-face feedback, some faculty may feel uncomfortable in providing negative evaluations. When DO is primarily used as a formative (performance improvement) tool instead of a vehicle for summative (providing only a rating

or grade) feedback, such a weakness can be significantly diminished. DO is most effective when it is entirely focused on improving the clinical performance of learners.

#### **Conclusion**

The ED is a training setting that provides a comprehensive and unique set of patient care experiences for a variety of learners. It is important for EM teachers to incorporate bedside supervision into the educational experience of all ED learners including residents. DO of clinical activities require more faculty time and dedication, but it allows for an in-depth analysis of the learner's performance. Despite the fact that DO has not been psychometrically validated in the ED environment, there is sufficient current face validity for its use. It is recommended that DO becomes an integral part of ED teaching programs and be further researched for standardization, validation, and improvement.

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