

The Enduring Importance of the Clinical Examination

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The authors of a recent paper on clinical examination¹ quoted William Osler: ‘medicine is learned by the bedside and not in the laboratory’. There are current concerns, particularly in the United States, about the preservation of high-quality clinical examination. There is a consensus that clinical skills have been deteriorating over the past 20 years. The reasons for this deterioration are complex.

The gravitational pull from the bedside towards imaging and laboratory investigations has resulted in medical students spending as little as 13% of their time with patients. This creep in the direction of a test-based approach to diagnosis has many downsides. Competency in clinical skills is adversely affected. This is important because half of outpatient errors are due to poor history taking and examination. The doctor-patient relationship is weakened and there is a decrease in empathy for the patient.

Commentators have examined how this drift away from the bedside has happened. The technological-based tools have created the sense that what doctors find in physical examinations is less important and less accurate. This is incorrect. The most common error associated with a clinical examination is not performing it. Clinical examination yields the diagnosis in 40% of cases with a further 33% added by simple investigations. The time spent with patients is more fragmented due to changes in duty hours and frequent handovers. There is a perception that the clinical examination is slow and inefficient. The practice of pre-ward round discussions leads to less time spent at the individual patient’s bedside. This is unsatisfactory and is potentially a missed opportunity in patient care. The ward round leads to changes in the patient’s diagnostic assessment in 20% of cases. In the absence of repeated clinical examination, new changes in the patient’s condition may not be identified in a timely manner. The electronic healthcare record (EHR) is a further challenge as it creates a physical barrier between the doctor and the patient. In particular, eye contact and non-verbal interaction are reduced. The EHR is meant to serve the doctor but at times the opposite seems true².

When undertaking bedside teaching of medical students and trainees, it is important to observe them eliciting physical signs rather than just simply reporting them. This feedback is critical to ensure that they are able to perform the examination correctly. The affirmation of a senior clinician boosts the student’s confidence in their clinical abilities.

The authors¹ suggest the following strategies to improve and maintain the efficacy of the clinical examination. Observe the interaction between the trainee and the patient at the bedside. Use a targeted approach to the examination. Use the opportunities for intention practice. Use appropriate technology to reinforce the physical signs. Provide the trainee with feedback on their clinical skills. Recognise the power of the bedside encounter beyond the diagnosis.

Initially, medical students are thought to examine patients from head to toe. When that basic skill-set has been mastered, the next phase is the ability to implement a more targeted clinical approach. This is the linkage of the key presenting symptom to the most likely source and cause of the problem. This exercise produces a greater diagnostic yield. For example, if the patient presents with dyspnea on effort, the concentration is directed at the cardio-pulmonary systems.

General observation is very rewarding when making an overall assessment of the patient. Unless the observations are made at the first encounter with the patient, they may be missed altogether. The key points to observe are appearance: well-nourished or thin, younger or older than their stated age, skin, hair, hygiene, clothing, behaviour and mood, eye contact, facial expression, emotional state; and cognitive function: alert, ability to communicate, orientated in person and place.

Twenty years ago, in 2006, the Department of Health published the Fottrell report on undergraduate education and training³. It was a far-sighted document and it recommended major reforms. It stated that there were a number of threats to medical education. There was an overloading of students with factual knowledge. There was an excessive reliance on large-group teaching. Courses were fragmented and there was a lack of personal development opportunities. There was a lack of adequate exposure to community care, public health, and general practice. It stressed the need to increase the number of EU medical students each year and the number of consultants with academic sessions. In 1978, the intake of EU students was capped at 305 per year due to the prevailing financial constraints. It was planned to be a temporary measure, but it remained in place for almost 30 years. There has been a subsequent welcome increase in places in recent years. In 2023/2024, the intake was 1298 students consisting of 665 Irish, 50 EU, and 579 non-EU. The incremental expansion will continue until September 2026. The total number of medical students is between 7000-8000 at present.

The provision of clinical teaching for large numbers of clinical students poses many challenges. The physical space around the patient becomes crowded. With more students per group, individual students have fewer opportunities to practice history taking and examination skills.

If the senior clinician lacks formal teacher training, the session can become disorganised. The answer is smaller focused groups. More teachers are needed to achieve this objective. One solution is the use of NCHDs as teachers. Patient co-operation is essential. Despite the increased student numbers, over 80% of patients are happy to be involved in teaching sessions. The patients find that they get a greater insight into their own condition, with more eyes on their case. Teaching students acts as an additional stimulus for senior staff to keep up-to-date with current advances and research.

Teaching neurology to medical students has been a perennial challenge. The term neurophobia was coined to describe the widespread fear and difficulty that medical students have with the neurological examination. Conway and Tubridy in this Journal⁴ have previously stated that it is due to nurture rather than nature, as students do not start with a dislike of neurology. The anxiety stems from perceived complexity, difficult neuroanatomy, suboptimal teaching, and the limited patient exposure leading to low confidence. One of the solutions is the integration of preclinical and clinical neurological teaching. It also improved by more bedside exposure and the use of educational videos.

The acquisition of clinical examination skills is a basic requirement for all medical students. The techniques, if well taught and practised, have a positive beneficial dividend on their subsequent diagnostic acumen. The learning sequence is start, learn, and master. The public legitimately expects their doctors to be competent at undertaking a physical examination.

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Editor

References:

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