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Letter to the Editor Internal Medicine

Teaching physical examination signs as a novel applied diagnostic skill in medical education

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Proposed is a novel learning approach for teaching physical examination skills that complements and augments prevailing methods of problem-based learning. It involves the use of eponymous signs within the medical education curriculum. Signs elicited during the physical examination represent a meaningful way to teach students while instilling a sense of excitement and life-long learning; students now see the examination as a potential method of diagnosis. Learning these eponymous signs requires the application and integration of the fundamental skills of observation, palpation, percussion, auscultation, and the use of maneuvers performed at the patient's bedside. They engage the patient with the caregiver through a direct, hands-on approach that involves observation, engaging, listening and touching.

In this proposed paradigm, a brief historical background of the person who described the sign serves as the case. The description of the eponymous sign as originally described assists the teacher to demonstrate the correct technique to the student and observe whether it is accurately performed. A discussion of the utility of the sign provides opportunities to review the mechanisms and pathophysiology of disease and to apply the student's understanding regarding its usefulness in clinical practice. Thus, the physical examination moves from a series of carefully articulated steps to differentiate normal from abnormal findings to one in which these skills are additionally applied as bedside diagnostic tools to inform diagnosis. These physical examination signs allow physicians to correlate pathological with functional changes. Thus, finding a particular sign during the physical examination enhances clinical suspicion for a particular disease and directs the physician to obtain more specific studies to help support his/her suspicion so that it leads to timely intervention.

These methods serve as an applied bedside tool to teach diagnostic and clinical reasoning skills; they engage the student and teacher into meaningful learning on the method of eliciting the sign. Although our discussion has been centered on undergraduate medical education, it is recognized that these principles apply to postgraduate clinical training as well, as a recent study suggests that resident and attending physicians do not teach physical examination skills to the medical students during inpatient rotations [1].

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We recognize protagonist and antagonist views of the proposal on teaching physical eponymous signs. Those who support their use argue that they represent honorific term used to recognize a physician(s) contribution(s) to medicine and may help clinicians recall an attribute found during physical examination [2]. Opposing views include misattribution of the sign, lack of acknowledgement of all authors contributing to the sign and lack of scientific studies that have rigorously investigated their utility in clinical practice [2].

Evidence suggests that some signs may be useful for diagnosis and correlate with disease severity, such as the Hill sign in aortic regurgitation or Blumberg sign as a marker for inflammatory disease involving the parietal peritoneum [3, 4]. Teaching these signs creates awareness of current gaps in our understanding regarding their application and opportunities to study them further. Incorporating eponymic signs into the curriculum may lead to more thoughtful, directive, efficient, cost-effective, and patient-centered medical care.

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REFERENCES

1. Bergl PA, Taylor AC, Klumb J, Quirk K, Muntz MD, Fletcher KE. Teaching physical examination to medical students on inpatients medicine teams: A prospective, mixed-methods descriptive study. J Hosp Med 2018;13:399–402. [CrossRef]
2. Thomas PB. Are medical eponyms really dying out? A study of their usage in the historical biomedical literature. J R Coll Physicians Edinb 2016;46:295–9. [CrossRef]
3. Shiraishi H, Shirayama T, Maruyama N, Kaimoto S, Otakara A, Kurimoto R, et al. Usefulness of peripheral arterial signs in the evaluation of aortic regurgitation. J Cardiol 2017;69:769–73. [CrossRef]
4. Rastogi V, Singh D, Tekiner H, Ye F, Mazza JJ, Yale SH. Abdominal physical signs and medical eponyms: Part II. Physical examination of palpation, 1907-1926. Clin Med Res 2019;17:47–54. [CrossRef]