



## Blending classic clinical skills with new technology

Now that we can order MRI studies on a break from rounds walking to Starbucks, utilize portable ultrasounds to direct IV line placement, and use dual-energy CT to detect a gout attack that has not yet occurred, it seems like a romantic anachronism to extol the ongoing virtues of the seemingly lost art of the physical examination. Back “in the day,” the giants of medicine roamed the halls with their natural instruments of palpation and percussion and their skills in observation and auscultation. They were giants because they stood out then, just as skilled diagnosticians stand out today using an upgraded set of tools. Some physicians a few decades ago were able to recognize, describe, and diagnose late-stage endocarditis with a stethoscope, a magnifying glass, and an ophthalmoscope. The giants of today recognize the patient with endocarditis and document its presence using transesophageal echocardiography before the peripheral eponymous stigmata of Janeway and Osler appear or the blood cultures turn positive. The physical examination, history, diagnostic reasoning, and clinical technology are all essential for a blend that provides efficient and effective medical care. The blending is the challenge.

Clinicians are not created equal. We learn and prioritize our skills in different ways. But if we are not taught to value and trust the physical examination, if we don't have the opportunity to see it influence patient management in positive ways, we may eschew it and instead indiscriminately use easily available laboratory and imaging tests—a more expensive and often misleading strategic approach. Today while in clinic, I saw a 54-year-old woman for evaluation of possible lupus who had arthritis of the hands and a high positive antinuclear antibody titer, but negative or normal results on other, previously ordered tests, including anti-DNA, rheumatoid factor, anti-cyclic citrullinated peptide, hepatitis C studies, complement levels, and another half-dozen immune serologic tests. On examination, she had typical nodular osteoarthritis of the proximal and distal interphalangeal joints of her hand with squaring of her thumbs. The antinuclear antibody was most likely associated with her previously diagnosed autoimmune thyroid disease.

In an editorial in this issue of the *Journal* (page 278), Dr. Salvatore Mangione, the author of a book on physical diagnosis,<sup>1</sup> cites a recent study indicating that the most common recognized diagnostic error related to the physical examination is that the appropriate examination isn't done.<sup>2</sup> I would add to that my concerns over the new common custom of cutting and pasting the findings from earlier physical examinations into later progress notes in the electronic record. So much for the value of being able to recognize “changing murmurs” when diagnosing infectious endocarditis.

The apparent efficiency (reflected in length of stay) and availability of technology, as well as a lack of physician skill and time, are often cited as reasons for the demise of the physical examination. Yet this does not need to be the case. If I had trained with portable ultrasonography readily available to confirm or refute my impressions, my skills at detecting low-grade synovitis would surely be better than they are. With a gold

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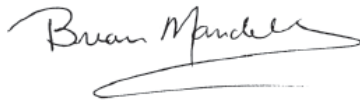
standard at hand, which may be technology or at times a skilled mentor, our examinations can be refined if we want them to be.

But the issue of limited physician time must be addressed. Efficiency is a critical concept in preserving how we practice and perform the physical examination. When we know what we are looking for, we are more likely to find it if it is present, or to have confidence that it is not present. I am far more likely to recognize a loud pulmonary second heart sound if I suspect that the dyspneic patient I am examining has pulmonary hypertension associated with her scleroderma than if I am doing a perfunctory cardiac auscultation in a patient admitted with cellulitis. Appropriate focus provides power to the directed physical examination. If I am looking for the cause of unexplained fevers, I will do a purposeful axillary and epitrochlear lymph node examination. I am not mindlessly probing the flesh.

Nishigori and colleagues have written of the “hypothesis-driven” physical examination.<sup>3</sup> Busy clinicians, they say, don’t have time to perform a head-to-toe, by-the-book physical examination. Instead, we should, by a dynamic process, formulate a differential diagnosis from the history and other initial information, and then perform the directed physical examination in earnest, looking for evidence to support or refute our diagnostic hypothesis—and thus redirect it. Plus, in a nice break from electronic charting, we can actually explain our thought processes to the patient as we perform the examination.

This approach makes sense to me as both intellectually satisfying and clinically efficient. And then we can consider which lab tests and technologic gadgetry we should order, while walking to get the café latte we ordered with our cell phone app.

New technology can support and not necessarily replace old habits.



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