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The Enduring Value of the Physical Examination 417
Junaid A.B. Zaman

This article focuses exclusively on physical examination (PE) in the context of clinical medicine, that is, the interaction between a health care provider and patient. In essence, not only is there benefit (value) to PE but also it will last (endure) for some time. Both “enduring” and “value” are explored in more depth with respect to the future integration of PE into the clinical assessment of a patient and how its value extends well beyond current diagnostic and cost-based metrics.

The Physical Examination as Ritual: Social Sciences and Embodiment in the Context of the Physical Examination 425
Cari Costanzo and Abraham Verghese

The privilege of examining a patient is a skill of value beyond its diagnostic utility. A thorough physical examination is an important ritual that benefits patients and physicians. The concept of embodiment helps one understand how illness and pain further define and shape the lived experiences of individuals in the context of their race, gender, sexuality, and socioeconomic status. Understanding ritual in medicine, including the placebo effects of such rituals, reaffirms the centrality of the physical examination to the process of building strong physician-patient relationships.

The Hypothesis-Driven Physical Examination 433
Brian T. Garibaldi and Andrew P.J. Olson

The physical examination remains a vital part of the clinical encounter. However, physical examination skills have declined in recent years, in part because of decreased time at the bedside. Many clinicians question the relevance of physical examinations in the age of technology. A hypothesis-driven approach to teaching and practicing the physical examination emphasizes the performance of maneuvers that can alter the likelihood of disease. Likelihood ratios are diagnostic weights that allow clinicians to estimate the postprobability of disease. This hypothesis-driven approach to the physical examination increases its value and efficiency while preserving its cultural role in the patient-physician relationship.
The Role of Technology in the Bedside Encounter

Andre Kumar, Gigi Liu, Jeff Chi, and John Kugler

Technology has the potential to both distract and reconnect providers with their patients. The widespread adoption of electronic medical records in recent years pulls physicians away from time at the bedside. However, when used in conjunction with patients, technology has the potential to bring patients and physicians together. The increasing use of point-of-care ultrasound by physicians is changing the bedside encounter by allowing for real-time diagnosis with the treating physician. It is a powerful example of the way technology can be a force for refocusing on the bedside encounter.

Diagnostic Errors and the Bedside Clinical Examination

Bennett W. Clark, Arsalan Derakhshan, and Sanjay V. Desai

Diagnostic errors are common in clinical practice and lead to adverse patient outcomes. Systematic reviews have shown that inadequate history taking and physical examination lead to a plurality, if not a majority, of diagnostic errors. Recent advances in cognitive science have also shown that unconscious biases likely contribute to many diagnostic errors. Research into diagnostic error has been hampered by methodologic inconsistency and a paucity of studies in real-world clinical settings. The best evidence indicates that educational interventions to reduce diagnostic error should give physicians feedback about clinical outcomes and enhance their ability to recognize signs and symptoms of specific diseases at the bedside.

The Outpatient Physical Examination

Maja K. Artandi and Rosalyn W. Stewart

The physical examination in the outpatient setting is a valuable tool. Even in settings where there is lack of evidence, such as the annual physical examination of an asymptomatic adult, the physical examination is beneficial for the physician-patient relationship. When a patient has specific symptoms, the physical examination, in addition to a thorough history, can help narrow down, or in many cases establish, a diagnosis. In a time where imaging and laboratory tests are easily available, but are expensive and can be invasive, a skilled physical examination remains an important component of patient evaluation.

The Electronic Health Record and the Clinical Examination

Helene F. Hedian, Jeremy A. Greene, and Timothy M. Niessen

This article examines how the adoption of the electronic health record (EHR) has changed the most fundamental unit of medicine: the clinical examination. The impact of the EHR on the clinical history, physical examination, documentation, and the doctor-patient relationship is described. The EHR now has a dominant role in clinical care and will be a central factor in clinical work of the future. Conversation needs to be shifted toward defining best practices with current EHRs inside and outside of the examination room.
Communication and Ethics in the Clinical Examination 485
Sharon Onguti, Sherine Mathew, and Christine Todd

At the heart of every effective patient-physician interaction is a relationship that is built on trust. Cultivating sound communication skills coupled with the awareness and application of ethical principles is integral to this process. One of the foremost challenges in competent practice is negotiating situations that arise at the bedside when such issues as patient autonomy, differing world views, honesty, and cost stewardship come into conflict. It is essential for health care providers to consider how to detect and prioritize these issues as they advocate for high-quality and patient-centered care.

Improving Observational Skills to Enhance the Clinical Examination 495
Stephen W. Russell

For much of the twentieth century, educators lacked evidence that teaching observational skills could benefit modern medicine. But in 2001, a statistical model emerged that supported the effectiveness of teaching observational skills to medical students using a museum-based curriculum. The story that led to that ground-breaking study, and the consequences that sprung from it, is retold here, traveling from the darkened caves in the foothills of France to the brightly lit galleries of the Yale Center for British Art. It never would have happened without the indelible mark made by one curious man’s journey.

Patient-Centered Bedside Rounds and the Clinical Examination 509
Peter R. Lichstein and Hal H. Atkinson

Bedside hospital rounds promote patient-centered care in teaching and nonteaching settings. Patients and families prefer bedside rounds, and provider acceptance is increasing. Efficient bedside rounds with an interprofessional team or with learners requires preparation of the patient and the rounding team. Bedside “choreography” provides structure and sets expectations for time spent in the room. By using relationship-centered communication, rounds can be both patient proximate and patient centered. The clinical examination can be integrated into the flow of the presentation and case discussion. Patient and provider experience can be enhanced through investing time at the bedside.

The Clinical Examination and Socially At-Risk Populations: The Examination Matters for Health Disparities 521
Karly A. Murphy, Alejandra Ellison-Barnes, Erica N. Johnson, and Lisa A. Cooper

Data from the United States show that persons from low socioeconomic backgrounds and those who are socially isolated, belong to racial or ethnic minority groups, or identify as lesbian, gay, bisexual, or transgender experience health disparities at a higher rate. Clinicians must transition from a biomedical to a biopsychosocial framework within the clinical examination to better address social determinants of health that contribute to health disparities. The authors review the characteristics of successful patient-clinician interactions. They describe strategies for relationship-centered
care within routine encounters. Our goal is to train clinicians to mitigate differences and reduce disparities in health care delivery.

Clinical Examination Component of Telemedicine, Telehealth, mHealth, and Connected Health Medical Practices 533
Ronald S. Weinstein, Elizabeth A. Krupinski, and Charles R. Doarn

Telemedicine and telehealth are the practices of medicine at a distance. Performing the equivalent of a complete clinical examination by telemedicine would be unusual. However, components of a more traditional clinical examination are part of the telemedicine workup for specific conditions. Telemedicine clinical examinations are facilitated, and enhanced, through the integration of a class of medical devices referred to as telemedicine peripherals (eg, electronic stethoscopes, tele-ophthalmoscopes, video-otoscopes). Direct-to-consumer telehealth is a rapidly expanding segment of the health care service industry.

Clinical Skills Assessment in the Twenty-First Century 545
Andrew Elder

Clinical skills remain fundamental to the practice of medicine and form a core component of the professional identity of the physician. However, evidence exists to suggest that the practice of some clinical skills is declining, particularly in the United States. A decline in practice of any skill can lead to a decline in its teaching and assessment, with further decline in practice as a result. Consequently, assessment drives not only learning of clinical skills but also their practice. This article summarizes contemporary approaches to clinical skills assessment that, if more widely adopted, could support the maintenance and reinvigoration of bedside clinical skills.

Digital Tools to Enhance Clinical Reasoning 559
Reza Manesh and Gurpreet Dhaliwal

Physicians can improve their diagnostic acumen by adopting a simulation-based approach to analyzing published cases. The tight coupling of clinical problems and their solutions affords physicians the opportunity to efficiently upgrade their illness scripts (structured knowledge of a specific disease) and schemas (structured frameworks for common problems). The more the number of times clinicians practice accessing and applying those knowledge structures through published cases, the greater the odds that they will have an enhanced approach to similar patient cases in the future. This article highlights digital resources that increase the number of cases a clinician experiences and learns from.