THE AMERICAN JOURNAL of MEDICINE®

Over-testing: Why More Is Not Better

Over-testing is at the root of many of our problems. Ordering, reviewing, and interpreting tests, explaining results, and follow-up testing consume valuable time. When a test isn't necessary, time can be more appropriately spent counseling patients, listening to them, and redoubling efforts to follow well-supported preventive guidelines.

Over-testing may be defined as the use of: 1) non-recommended screening tests in asymptomatic patients, or 2) more testing than necessary to diagnose patients with signs or symptoms. This discussion explores reasons physicians over-test, problems that ensue, and describes viable solutions for practitioners and primary care and specialty societies. Discussion is confined to the outpatient setting to simplify this analysis.

There are at least 5 reasons why clinicians over-test:

1) Belief that ordering many tests will help detect subclinical disease
2) Defensive medicine
3) Lack of knowledge or confidence
4) Patients' expectations
5) Profit

When ordering unproven screening tests for asymptomatic patients without good reason, few consider the low yield, high cost per diagnosis made, and considerable toll of false positives. Anecdotal accounts of unexpected diagnoses discovered on "routine" testing help perpetuate over-testing. But even the best tests yield more false positives than true positives when the prevalence of what one is testing for is low. Others order tests to establish a "baseline," but this has been shown repeatedly not to improve care for asymptomatic patients and consumes hundreds of millions of health care dollars per year.[1,2] Abnormal results that later prove erroneous engender unnecessary anxiety and needless follow-up testing. Ordering only medically indicated tests reduces our role as instigators of needless worry and, as an added benefit, helps lessen physicians' workload.

Defensive medicine's role in over-testing is well established. Ninety-one percent of physicians surveyed recently reported ordering more tests or procedures than needed to protect themselves from malpractice suits.[3] A Harvard School of Public Health study indicates that this accounts for a substantial proportion of our nation's $55 billion malpractice costs annually.[4] Ordering more tests doesn't buy protection; indeed, failure to follow up on results creates almost as many medicolegal problems as failure to diagnose.[5]

Over-testing is often learned in training, either during an era when "more is better" had no evidence to refute it, or from a mentor who trained in such an era. While some training programs have begun placing increased emphasis on the importance of judicious testing,[6] these laudable efforts alone will not change the overall value of US health care services for many years. It is incumbent upon us as clinicians to examine our own practices while regularly discussing the subject of over-testing with colleagues and trainees alike.

Lack of knowledge or confidence are other potentially remedial contributors to over-testing, and are often intertwined. Where deficits exist in individual knowledge, it can feel more reassuring to order batteries of tests than to fill the knowledge gaps.[7] Swallowing our pride to ask advice of colleagues is one way to avoid ordering unnecessary tests.

Another insidious, yet remarkably common, contributor to over-testing is profit motive. The odds of ordering common laboratory tests are up to 8 times higher among physicians with financial stakes in an on-site laboratory, even after adjusting for patient and practice differences.[8]

Patient expectation also leads to over-testing. Many patients expect panels of tests at regular intervals. Physicians may worry that a patient's satisfaction depends upon ordering many tests. Ordering tests, like giving antibiotics for viral infections, is often easier than explaining reasons behind not doing so, but the choice is between good medicine and easy medicine. Indeed, the problem of misguided expectations often finds its roots in patients' prior experiences with physicians.

Preoperative testing serves as a prime example of the roles defensive medicine and lack of knowledge play in over-testing. Primary care physicians often receive surgeons' requests for panels of laboratory tests preceding minor outpatient procedures, as well as chest radiographs and electrocardiograms that don't appear to take into account the type of surgery, patient's age, or history. Patients without respiratory problems don't need preoperative chest radiographs unless thoracic or upper abdominal surgery is scheduled. Except where medical history dictates otherwise, cataract surgery, arthroscopies, and other relatively bloodless procedures require no preoperative laboratory testing.[9-13]

Funding: None.
Conflict of Interest: None.
Authorship: The authors both played a role in writing this manuscript.

http://dx.doi.org/10.1016/j.amjmed.2013.10.024

Fear of a cancelled procedure often leads to rubber-stamping such requests; these concerns are largely unfounded, as anesthesiologists and preoperative surgery coordinators are mostly supportive of less testing.[14] It is our experience that calling the surgery coordinator and conveying the lack of indication for these tests usually meets with agreement. Consensus guidelines within an institution can markedly decrease ordering of unnecessary preprocedural tests, as has been done at both of our institutions, without impacting outcomes or rates of cancelled surgeries.

Individual clinicians should consider implementing 4 actions to help avoid over-testing: 1) Refrain from ordering "baseline" or "screening" tests on patients who otherwise have no medical indication. 2) Refrain from ordering preoperative tests that do not make medical sense. Advocating for your patients means helping them avoid unnecessary blood draws, worry, expense, and radiation. 3) Become familiar with evidence-based guidelines and use them to guide testing. Good places to start are the Choosing Wisely campaign,[15] a partnership of the American Board of Internal Medicine and more than 50 specialty societies, and its predecessor, "The 'Top 5' Lists in Primary Care: Meeting the Responsibility of Professionalism"[16] released by The National Physicians Alliance's Good Stewardship Project. Both identify common practices that physicians across specialties should embrace to promote more effective use of health care resources. 4) Share with your patients your reasons for avoiding over-testing.

As a community, physicians should undertake collaborative efforts that complement individual actions: 1) Specialty task forces should identify and address factors that lead to over-testing but are *not* under the control of that specialty. Primary care physicians and specialists might reflect upon options for improving clinical performance benchmarks and pay-for-performance measures that sometimes contradict good medical judgment. Surgeons and anesthesiologists might deliberate ways to correct surgery centers' nonindicated preoperative testing requirements. 2) Bodies overseeing training of students and residents should play a larger role in educating future clinicians on these matters. 3) Each specialty society should establish digital "suggestion boxes" to which members may submit observations and recommendations to address over-testing. A society's guidelines committee, or ad hoc panel where none exists, would regularly review suggestions to assess relevance and supporting evidence. Where suggestions identify important questions lacking evidence, the committee may seek to promote the society's support for research.

For too long, physicians have declined to engage in stewardship of limited health care resources. If patients and physicians demand of each other a targeted, sensible approach to testing, we will occasion better care in a system that is more efficient and more effective.

We thank Drs Neil Wenger, Robert Brook, Martin Shapiro, and Glenn Braunstein for their comments.

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