What Values Are Critical?

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Chemistry and hematology laboratories long ago developed policies and procedures for so-called “critical values.” These policies ensured timely verbal communications for predefined test results understood to reflect life-threatening therapeutically remeasurable conditions. The critical values concept has penetrated anatomic pathology but only in specific limited settings, usually when an abnormal or important finding is anticipated by the procedure itself, such as a frozen section request or biopsy to evaluate rejection in a kidney transplant. In this scenario, expedited communication is highly driven by context, typically in the form of pretest notification via clinician contact with laboratory personnel. Hence, an important distinction between anatomic and clinical pathology testing environments is that a critical value can be defined more precisely in the latter setting, outside of test indication. In other words, certain blood test values are defined as critical because they are presumed to reflect, rather than depend, on the clinical picture. For example, there can be little doubt that a cancer diagnosis in a tissue biopsy is important. However, should it ever be considered a critical value in the sense of patient acuity and need for verbal communication?

Inherent to the concept of critical value is linkage with communication. Always a problem even under ideal circumstances, chemistry laboratories can often convey information by finding the location of an inpatient area and then interacting with nursing or on-call physicians assigned specifically to that area. One of the barriers to communication of anatomic pathology critical values is the problem of who should be contacted. For example, what if a critical value is an unexpected finding generated from an outpatient clinic by a physician who is not responsible for patient follow-up and treatment? How do we know who is the best person to contact when we want to convey these results by phone? How do we know that our written report will find the appropriate physician? In today’s fractured patient care settings, with off-site pathology laboratories and specialized surgery centers, communication becomes an increasingly complex problem with multiple, sometimes unknown, variables. This applies to results we surgical pathologists may consider “routine,” such as a colon biopsy showing invasive adenocarcinoma. If our diagnosis fails to reach the appropriate medical provider, or the patient for that matter, should we agree that a routine but “missed” cancer diagnosis (ie, one that is not acted on because our report did not find the appropriate physician) becomes a critical value at some point in time? Consider a more nuanced but not uncommon scenario in which a patient is referred “up front” for follow-up to a specific physician based on the expected result of a biopsy, for example, lung carcinoma in a bronchial biopsy. What if the biopsy turns out to have an unexpected finding, like metastatic renal cell carcinoma, for which the referral physician is inappropriate? Is that result a critical value in the sense that a patient’s care is thereby managed inefficiently? Finally, all of us can recall enlightening but discomforting near-miss experiences, in which we have verbally communicated a diagnosis only to discover that the specimen had been misidentified, accompanied by a misleading clinical history or by incorrect anatomic location. To the extent that these are errors that could lead to patient harm via delayed or inappropriate therapy, should these cases be included in our concept of a critical value?

A key point here is the following: there is not only a relationship but also a dynamic interaction among the concepts of critical value, error reduction, and communication between medical professionals. Our approach to anatomic pathology
critical values, therefore, should combine quality initiatives with information technologies and a culture of enhanced professional interaction. Our goals should be to optimize efficiency, patient safety, and clear information exchange.

In this issue of AJCP, Pereira et al. make a first step. Using survey methods, they begin to define anatomic pathology diagnoses that may represent a critical value. In view of the contrast with blood testing noted above, they propose a sensible term conveying the greater interpretive aspect of biopsy evaluation: critical diagnosis. Results of their study were driven by widely recognized and experienced experts in surgical pathology and encompass many diagnoses that are routinely “called in” during the course of daily practice. Their proposal will be vetted and debated in appropriate forums such as the Association of Directors of Anatomic and Surgical Pathology. A broad consensus will quickly be reached around the concept of anatomic pathology critical diagnoses, and implementation in some form will follow in due course via accrediting bodies such as the College of American Pathologists. It should be noted that the article by Pereira et al is focused on defining critical diagnosis in a medical context alone and makes limited analyses of communication, with no attention to measuring error reduction or impact on patient care.

We would hope that far-sighted leaders in the surgical pathology field will view critical diagnoses in the broader contexts of patient safety, practice efficiency, and communication. In this context it is important to note that Pereira et al. recommend the traditional phone call as the appropriate course of action for critical diagnoses. Given the formidable and growing complexities surrounding client notification, I suggest that a more comprehensive strategy is in order. Communication gaps are one of the most common “root causes” of catastrophic medical errors. Close interactions between pathologists and clinicians, historically venerated, will become even more important as a key measure of quality in medical care. Solving this problem will clearly be more complex than the traditional phone call, but the challenge must not be ignored or consigned solely to those outside of daily pathology practice.

A silver lining in this cloud is that information and communication technologies have evolved dramatically. They hold great promise in helping pathologists to improve not only diagnostic accuracy (eg, through access to information) but also to direct our patient care contribution more effectively, in modes that extend our traditional written reports or encompass proactive quality measures. For example, electronic medical records now allow us to identify referral plans for patients. Additionally, laboratory information systems can now be used to data “mine” surgical pathology reports for key words that denote an important result that must be communicated expeditiously. With the unprecedented access to clinical information becoming available, pathologists may soon be in a position to provide inmeasurably greater diagnostic context and also direct our reports to greater patient benefit. At our institution, we have developed a process for using such technologies to screen our reports daily for potentially “missed” critical diagnoses. Ultimately we must face a defining question: we pathologists own the job of defining anatomic pathology critical diagnoses, but who will make certain they are communicated? More important, who will make sure that these diagnoses are optimally interpreted by nonpathologist physicians? These questions raise the issue of “value” in another context, ie, the value added that pathologist work contributes to patient care. With the growth of consumerism in medicine, value is increasingly defined as a function of safety and service as well as expertise. Let us hope for the sake of pathology, then, that we are beginning to define not just critical values but novel services that provide added value as well.

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References


