How might acknowledging a medical error promote patient safety?

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Mistakes addressed openly reveal parts of the clinical process needing improvement; patients duly informed make better decisions about their care

A 62-year-old white woman, a retired elementary school teacher, presents to your office for a routine tuberculin skin test required for renewal of her teaching license.

Examination
• Patient looks well and is in no distress
• Weight 138 lbs; height 66 inches; body mass index 23; other vitals normal
• Normal heart, lung, and abdominal exam. No cervical or other adenopathy.

Medical history
• Has osteoporosis for which she takes alendronate weekly; also has diet-controlled hyperlipidemia, and is status post-remote hysterectomy for uterine bleeding
• Married, with 1 grown son who is healthy
• Nonsmoker; drinks 2 alcoholic beverages weekly; no illicit drugs
• Walks 40 minutes 4 times a week

• Mother died at age 93 from congestive heart failure; father alive, 92, has bladder cancer
• Review of systems negative for cough, fever, weight loss, or swollen glands

A Mantoux tuberculin skin test (TST) is administered per clinic protocol, and the patient is instructed to return in 48 to 72 hours for a reading of the test result.

The Mantoux TST is the most accurate test for determining tuberculosis (TB) infection.[1] The standard procedure uses 0.1 cc (5 tuberculin units) of purified protein derivative (PPD) in a standard tuberculin syringe (3/8 inch, 26–27 gauge). This is administered on a flexor surface of the forearm, 2 to 4 inches below the elbow, and requires an intradermal injection (needle bevel upward) that raises a wheal 6 to 10 mm in diameter. A previously reported positive TST does not contraindicate repeated administration.[1]

Q: What is a positive TST result? What is the correct technique for reading a TST? Are other tests available to confirm a positive TST?

A: _____

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❚ **Interpreting TB test results**

The definition of a positive tuberculin skin test result depends on a person's risk factors as defined in the **TABLE**.[1] Read a TST result 48 to 96 (ideally 72) hours after administration. Palpate and measure induration (not redness).

An alternative method is to use a ballpoint pen to draw a line starting at 1 cm from both sides of the skin reaction and moving toward its center. Where you encounter increased resistance, mark that as the border of induration. Then measure the distance between the 2 borders. This method has been reported to be slightly more precise than palpation.[2]

Another recently developed test for TB infection, the QuantiFERON, is based on quantification of interferon-gamma response in whole blood to TB infection. Its routine use is not recommended by the Centers for Disease Control and Prevention (CDC).[3] It was unavailable in the county where the patient was tested.

❚ **The patient's return 48 hours later**

A nurse examines the patient's arm and is uncertain how to interpret the test result. The patient's primary physician is not in the clinic, and one of the other physicians is consulted. He reads the result as "20 mm induration, positive for TB infection."

A chest X-ray shows no evidence of tuberculosis infection or other abnormality. The patient is referred to the local county health department. In accordance with CDC guidelines, she is diagnosed with latent tuberculosis infection and started on daily isoniazid therapy.[4]

The patient's family physician learns of the patient's diagnosis after she starts isoniazid therapy. Because of her low risk of tuberculosis, he wonders if the skin test result might have been misread. He discusses the issue with the physician who read the first skin test and discovers there was uncertainty regarding the redness (as opposed to the induration) of the skin reaction. The patient herself reports that she did not feel a hard "bump" on the skin where the test was administered.

The family physician informs the patient that the tuberculin skin test may have been incorrectly read as positive. He gives her the option of repeating the test at the county health department, whose personnel are experienced in administering and reading tuberculin skin tests. The patient chooses to repeat the TST, which is read as definitely negative. Isoniazid therapy is stopped. The patient is grateful that she does not have to continue unnecessary and potentially harmful therapy.

Q: What is the best way to tell a patient a medical error has been made?

A:

❚ **Dealing responsibly with medical errors**

A simple, straightforward explanation and apology is more likely to benefit both patient and physician than is silence or an explanation that is convoluted or places blame.

A growing consensus recommends that when a medical error is made, health care providers should tell patients about the error and apologize.[5] In part this recommendation stems from accepted ethical principles of respect for patients as autonomous decision-makers, and from the obligation of providers to act with beneficence on the patient's behalf. If a medical error impacts the patient's care in

FAST TRACK

When a medical error is made, health care providers should tell patients about the error and apologize

TABLE

TST results regarded as positive for tuberculosis, given a patient's specific risk factors

5 MM	INDURATION 10 MM	15 MM
HIV infection Close contact of person with TB Previous TB on chest x-ray Intravenous drug use, or unknown HIV status	Native of country with endemic TB HIV-negative intravenous drug user Low income, inadequate healthcare Resident of long-term care facility Medical condition with increased TB risk Ages less than 4 years Likely exposure to TB	Patient has no risk factors

some way, the patient is unable to make informed consent about subsequent care or trust the medical provider if the error is not divulged.

Furthermore, others have advocated that an apology after a medical error can reduce the cost or risk of tort litigation for medical malpractice.[6]

To encourage admissions of error, many states now prevent apologies from being used in court as evidence of guilt in malpractice cases.

Although organizations and liability insurance carriers may have specific requirements or guidelines about how to handle medical errors, practitioners may want to consider the following steps:
• Get the key facts of what happened, if possible from those who directly observed or who were involved in the care
• Report these facts to risk management or to the professional liability carrier, according to internal policies
• Apologize to the patient.

Q: How do you apologize to a patient for a medical error?

A: _____

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FAST TRACK

Apologies for errors should be simple, prompt, sincere, and made in person

Important features of an apology
• Make the apology *promptly*
• Be *sincere*
• Apologize *in person*
• Keep it *simple*—eg, "I am very sorry for any concern or inconvenience this event caused you." Avoid blaming others, minimizing the event, or giving an involved explanation about how the problem occurred.

The purpose of the apology is simply that: to apologize. A patient may need to process feelings about what happened, so the apology should be viewed as an impor-

tant opportunity for the patient to heal.

After apologizing, reassure the patient that you plan to learn from the mishap and prevent further events from happening. Stress that the trust the patient places in you and your team is not misplaced; that you take all mishaps, even minor ones, seriously and have an aggressive program of quality assurance.

Finally, though you cannot undo the event, offering to waive your professional fee for the visit that led to the mishap will help rebuild patient confidence and loyalty.

Q: How do you learn from an outpatient office medical error to optimize patient safety?

A: _____

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Learning from errors is a vital way we prevent errors from occurring in the future. Others have described key steps to creating a culture and process of improvement.[7] These include:

• Establish an atmosphere of quality improvement in your organization by emphasizing that errors are inevitable, are more often caused by faulty systems rather than faulty people, and are opportunities to learn and improve.

• Avoid blame—search for root causes.

• Create a mechanism to report all errors, mishaps, "near-misses," and unhappy customers, and a method to systematically review these reports to identify areas to improve.

• Incorporate "lessons learned" into system changes designed to prevent recurrence of this and similar mishaps.

Q: How might these policies have been applied to our case?

A: _____

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In this particular case, a system-based approach to care might have anticipated and prevented this error through the following steps:

• Create specific written instructions for office procedures

• Have the written procedures handy and easily available for staff to reference, if needed, before performing the task

Patient safety commentary

Openly acknowledging a mistake and apologizing to a patient, as the authors suggest, is sound advice increasingly followed in the United States and internationally. Disclosure of mistakes is a cornerstone of the safety work, as is being carried out in the United Kingdom by the National Patient Safety Agency (NPSA). They have prepared excellent online interactive educational materials to support health care professionals as they participate in the disclosure process.[8]

A second step the authors took was to learn about the inherent risks and potential failure points that are often deeply embedded in our care delivery processes. Mistakes are windows into the clinical work environment. If we peer through these windows regularly and systematically, we can learn a good deal about protecting our patients from harm. The mistake reported here—though of little or no harm to the patient (ie, possibly a near miss)—has potential as a rich information source about how care is delivered in the family practice clinic.[9] In addition, because there was a *recovery* by the patient's family physician, we have the added benefit of learning from that part of the narrative.

Learning from mistakes an intentional process, not an automatic one
First, an organization or setting must have a just culture to enable learning.[10] Tools for assessing safety culture are

• Make sure during new staff orientation that personnel are trained and documented as proficient in each procedure

• Have regular updates or "recertification," particularly for procedures that are done infrequently

• A well-informed patient is often the first protection against mishaps. A patient education sheet given to the

A system-based approach to care—eg, written instruction for office procedures, staff training, patient education sheets—may help prevent errors

available from the Agency for Healthcare Research and Quality (AHRQ)[11] and from the Institute for Healthcare Improvement (IHI).[12] A just culture is an essential attribute of a learning organization.[13]

Second, a systematic process must be available for inquiring about the root causes and contributing factors of events. Examples of such systems are those used by Veterans Health Administration (VHA)[14] and the UK's NPSA.[15] The Medical Events Reporting System for transfusion medicine (MERS-TM) is a model reporting system in the US and is developed as a learning system.[16,17]

Third, we have learned that simply gathering information about the causes of events is not sufficient to prevent future events. Those involved in mistakes must be given an opportunity to come together to make sense of the causal information before they can make changes.

Fourth, a system-change method is needed to correct underlying causes. Such a method is the Plan-Do-Study Act (PDSA), which translates knowledge about causes into actions that can be implemented in the health care work environment.[18]

How might these processes apply to the case at hand

Two aspects of this case in particular bear scrutiny.

The clinic protocol. Protocols standardize care as well as complement the cognitive work required in clinical care. Understanding the contents and use of this protocol would shed light on this event. To what extent did the protocol support the interpretation of the TB test; how informative was it? Did it require obtaining a history from the patient as a component of the test interpretation? Did it detail the skills of the test interpreter? Did it spell out a contingency plan in the event those administering and reading the tests are unclear about the findings? Who had access to the protocol?

Handoffs, when things can get dropped. Another focus of this case is the 3 handoffs: the nurse reading the test handed the interpretation off to a physician; the physician handed the patient off to the public health clinic; and the clinic then handed the patient back to her primary care physician. Handoffs often lead to mistakes because they involve interpersonal communication and transfer of information, both of which are fraught with opportunities for errors.[19]

In the *first handoff,* we might well ask what information the nurse had about the patient's history and what information she communicated to the physician? A full understanding of this handoff helps to make explicit hierarchical relationships in the clinic as well as information flow.

With the *second handoff,* we might ask what information regarding the uncertainty of the patient's TB test interpretation and history were passed along to the TB clinic? How was the information communicated—on paper, electronically, by telephone? Each of these methods has unique constraints.

Finally, the fortunate *third handoff*—follow-up with the patient's family practice physician that resulted in the discovery of the mistake and therefore recovery. It is particularly important to note that the recovery came because of an apparent system of feedback of information to the patient's family physician. Such feedback loops contribute to safety. The family physician noticed something that did not make sense and investigated it. That is, the family physician was mindful.[20] This attitude of mindfulness is a critical component in safe or reliable systems. Hubris is the enemy of safety.

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patient when the TST test was administered—describing the test, how it is interpreted, and implications of a "positive" test result—may have alerted the patient in the first place that her test had been misread

• Create documentation forms that have built in "decision support"—for instance, instead of having a blank that says: "TST_____," the form instead could describe: "TST: date applied, date read, mm of induration measured in 2 dimensions."◾

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