Toward Ensuring Patient Safety in Urgent Care

Urgent message: As urgent care's role in the continuum of care continues to evolve, the practitioner must take steps to create a culture that supports proper patient identification, drug safety, and adherence to lab standards.

Phillip Disraeli MD, FAAFP

In the 1998 report *To Err is Human,* the Institute of Medicine defined patient safety as "freedom from accidental injury." The ensuing media coverage focused on the 98,000 deaths that IOM estimated occur each year due to adverse events in U.S hospitals.

Yet, the report also discussed errors that lead to injury and death across the continuum of healthcare, from medical offices, to pharmacies, home healthcare, and long-term care.

Ten years after the report, urgent care centers are an important component in the continuum of care for patients. As such, we need to evaluate our systems to ensure patient safety.

The purpose of this two-part article is to outline the common areas of risk inherent to the urgent care environment and to discuss concrete recommendations for mitigating that risk.*

© iStockPhoto; Michael Krinke; Composite: Tom DeFrenda

Safety Culture in the Urgent Care Center

A culture that emphasizes patient safety should begin with the physicians and administration of the urgent care center.

Physicians can model behavior oriented toward intellectual curiosity, continuous quality improvement, and patient advocacy. Successful practices will use "near misses" as opportunities for learning for the entire staff, and not react by singling out individual staff for blame or ridicule.

In an approach similar to the airline industry's, sentinel events can spur the practice to perform a root-cause analysis to prevent other medical errors of the same type.

It is helpful to designate a safety officer for the practice—someone responsible for keeping the center up to date on the latest recommendations from reg-

** The majority of the recommendations were adapted from the Joint Commission, with whom the Urgent Care Association of America recently agreed on a voluntary accreditation process for urgent care centers. This article is not intended to be a legally binding guideline. Other useful resources on the topic are the Institute of Medicine, the American Board of Medical Specialties, and the Institute for Safe Medication Practices.*

ulatory and accrediting bodies, for annual assessments of potential areas of risk, and for staff and provider education. This need not be a physician, but the individual needs to have the full support and cooperation of the physicians in order to succeed. It may be helpful for the practice to assess its safety preparedness with the Physician Practice Patient Safety Assessment, available at *www.physiciansafetytool.org*.

Case Example

Mrs. Amy Jones presents to the urgent care center for treatment of cough and a fever. In the triage area, she gives the assistant her list of medications and notes that she is allergic to penicillin. The patient is evaluated by the physician in room 2, has a chest x-ray, and is diagnosed with pneumonia. Her physician decides levofloxacin would be the most appropriate treatment, and leaves to complete the chart and prescriptions.

Meanwhile, Mrs. Charlene Jones is seen by another provider for strep throat in room 3. Her physician reviews her medications and allergies and prescribes a shot of penicillin G benzathine. The order is written on the chart and handed to the nurse for the injection. The nurse sees the room number 2 in the corner of the chart—the wrong room number—and prepares the injection of penicillin and walks into room 2, where *Amy* Jones is sitting on the exam table. The nurse says, "Hi Mrs. Jones, I have an injection that the doctor ordered for you." Feeling quite ill, Amy Jones does not question the injection. She is given the penicillin intended for the other Mrs. Jones, next door, and suffers an anaphylactic reaction.

Patient Identification

Both the Joint Commission and the American Board of Medical Specialties (ABMS) recommend that healthcare providers utilize two unique patient identifiers before performing any procedure, drawing blood, or administering medications or vaccines.

The most reasonable method is to identify patients by their first *and* last names *and* their birthdates.

In the example listed above, the medication error could have been prevented in a number of ways:

- If the doctor had discussed the treatment options with the patient and mentioned that only oral medications would be prescribed, then the patient might have questioned the injection before she received it.
- The nurse could have verified that she had the correct patient by asking her for her first and last names and date of birth.
- Nurses should always verify drug allergies prior to administering an injection.
- If a practice has more than one patient with the same or similar names, they can highlight the chart and name to bring the potential confusion to light for staff.

Medication Safety

Medications are the greatest source of adverse events in ambulatory care. One systematic review by Thomsen, et al found that they occur at the rate of 14.9 events per 1,000 person months.

On review, it becomes clear that many of these are preventable. Errors may occur in the ordering, prescribing, administering, refilling, and storing of medications.

Starting with the intake of the patient, the staff should obtain a complete medication and allergy history of every patient for every encounter. This list should include prescription medications, over-the-counter meds, herbal products, and supplements.

Allergies considered should include medications, foods, latex, and contrast agents. The urgent care center should have a system in place to ensure this is done for every encounter and that the provider can rely on the medication list.

Prescription "hygiene"

When prescribing medications, the provider should indicate the full name, dose, route, frequency, duration, and indication for every medication. The prescription must be legible if handwritten, or follow a standardized method in an electronic medical records or electronic prescribing tool.

The support staff needs to be encouraged to ask for clarification for any prescription that is incomplete, illegible, or unclear.

Oral and telephone orders are an area of potential danger for patients. Whenever possible, spoken orders should be avoided within the urgent care center. However, there are occasions when spoken or telephone orders are unavoidable. In these cases, a spoken order should specify the exact medication or procedure, the dose, route, and patient identifiers.

Clinical staff who receive spoken/telephone orders should write the order in the chart or order sheet and read the order back to the prescribing person, who must verify the order.

Clinicians need to be aware of common look-alike

and sound-alike medications that have been identified as common sources of medication errors. Most of the drugs with similar-sounding names will have different medical indications, so attaching the indication for use to every prescription will help prevent confusion. **Table 1** lists such medications that are used frequently in the urgent care setting.

All clinical personnel need to be aware of these meds so they have a heightened sense of safety when prescribing or refilling them. The urgent care center may even choose to post such a list in the clinical area.

All employees need up-to-date drug references at their fingertips, including accurate pediatric dosing. An online database with a patient education component (such as Epocrates or MD Consult) would allow for clinicians to discuss side effects and provide the patient with a written summary of the information.

Table 1. Sound-alike and Look-alike Meds

Celebrex and Celexa
Clonidine and Klonopin
Hydromorphone and morphine
Lorazepam and alprazolam
Metformin and metronidazole
Topamax and Toprol XL
Zyprexa and Zyrtec
Advicor and Advair
Darvocet and Percocet
Hydrocodone and oxycodone
Prilosec and Prozac
Zantac and Xanax
Zestril and Zetia
Liquid morphine products—many concentrations available
Insulin products—numerous confusing products

Samples

Prescription samples are commonly dispensed from the urgent care center. A staff member should be responsible for maintaining the order of the sample closet and purging expired meds.

Again, particular care should be taken with medications that look alike or sound alike; these should not be stored next to each other.

Sample medications should be accepted by the practice only if they are known to be safe and effective, to be useful for common conditions seen in the urgent care center, and to be present on managed care formularies available to patients.

Providers must document the samples dispensed in the medical record in the same manner as normal prescriptions. The dosage and instructions for use need to be included. If the center has an EMR system, it may be possible to search the patient database for samples dispensed in the event of a drug recall or FDA removal.

Sound decisions based on accurate information

Physicians should prescribe medications only within the context of the urgent care center. In order to have all the necessary information for an accurate prescription, the clinician needs to have a chart with a full medication and allergy history, past medical history, and accurate demographic information. When clinicians make exceptions to this rule, they are more likely to make an error or encounter a patient who will have a preventable adverse reaction.

This is also true for personnel who are involved in the refilling of meds. They, too, must have access to the full chart. Chart access is improved in the setting of an EMR, because more than one individual may view the chart simultaneously, or even remotely.

It is most helpful when all members of the team utilize standardized protocols for refilling medications, whether electronic, by fax or, by phone. All refills must be documented in the medical record and be accessible as part of the ongoing medication history.

Jenkins, et al cite an anonymously authored article published in the *Journal of the American Medical Association* in reporting that up to one third of physician handwriting is illegible. For this reason and many others, urgent care clinicians are moving toward electronic prescribing and EMRs to enter medication orders and prescriptions. Some of these systems allow for updated drug information, interaction checking, and allergy warnings to prevent errors.

Recently, the Institute of Medicine recommended that all prescriptions be electronic by 2010. For those who have not yet made the transition, safety experts suggest that prescriptions be written carefully, while sitting in a quiet area, to improve legibility.

Abbreviations in prescriptions are especially problematic and prone to error. When writing the prescription, the name and dosing frequency should be indicated in full text, along with the indication for the prescription.

The Joint Commission recommends against using

certain abbreviations (**Table 2)** and symbols altogether. The entire list is available in PDF form at *www.jointcommission.org/PatientSafety/DoNotUseList/*.

Table 2. Abbreviations to Avoid Using

Do not use	Potential problem	Use instead
U (unit)	Mistaken for "0" (zero), the number 4, or "cc"	Write "unit"
IU (International Unit)	Mistaken for IV (intravenous) or the number "10"	Write "International Unit"
Q.D., QD, q.d., qd (daily) Q.O.D. QOD, q.o.d., qod (every other day)	Mistaken for each other Period after the Q mistaken for I and the O mistaken for I	Write "daily" Write "every other day"
Trailing zero (X.0 mg)* Lack of leading zero (.X mg)	Decimal point is missed	Write X mg Write 0.X mg
MS MSO_4 and $MgSO_4$	Can mean morphine sulfate or magnesium sulfate Confused for one another	Write "morphine sulfate" Write "magnesium sulfate"

*Exception: A "trailing zero" may be used only where required to demonstrate the level of precision of the value being reported, such as for laboratory results, imaging studies that report size of lesions, or catheter/tube sized. It may not be used in medication orders or other medication-related documentation.

Injectables

Most urgent care centers administer injectable medications and vaccines to patients. There are a number of ways one can reduce the risk of errors in these instances. For example:

- An urgent care center could choose to stock only one concentration of a medication.
- The provider must be very careful to specify the route of administration (IV, oral, SQ, IM).
- Only providers and qualified clinical personnel should administer medications.
- A member of the staff should be responsible for ongoing review of the safety and efficacy of all stocked and administered medications.
- Before administering the medication, the nurse should verify the patient with two identifiers.
- Make certain the correct patient is receiving the correct medication, correct dose, and correct route, and that the med has not expired.
- Liquid medications should be administered only in approved measuring devices. Parenteral syringes used for this purpose have accidentally resulted in aspiration of the syringe tip.
- The members of the clinical team need to be warned when a vital medication is low or out of stock.
- After administration, the center should be prepared to monitor the patient for possible adverse reactions or anaphylaxis, and be equipped to handle a complication, should one arise.

Storage

The proper storage of medications is also important. The urgent care center should follow storage instructions specified by the manufacturer.

In addition:

- Medications should not be stored in patient areas or exam rooms.
- Medications should be stocked by a standardized inventory, with a specific staff member responsible for purging expired meds at least quarterly.
- Multi-dose vials should be discarded within 30 days of opening (labeling the vial when opened with a date) or changed to single-dose vials to prevent administering expired meds.
- Emergency medications should be available as unit doses and labeled age appropriately. They should be kept separately in a crash cart in ready-to-use formulations.
- Controlled substances need to be kept in another separate locked area, and monitored daily by nursing staff.
- Medications and reagents (e.g., hemoccult developer, eye drops, glucose monitor reagents) designed for external use (i.e., podophyllin, benzoin, phenol) should be labeled "for external use only" and kept separate from other medications.

When prevention fails

Despite our best efforts, medication errors and adverse

Table 3. Sample Test Tracking Log

Test Tracking Log							
Patient name	Test ordered	Location	Ordering physician	Results received (date, time)	Action plan or no action needed	Follow-up completed (date)	Staff initials

reactions will continue to occur. In such cases, the prescribing physician should always be informed of the reaction. The urgent care center should have a process to perform a root-cause analysis of the error, so problems with the medication system can be corrected.

Lab Safety and CLIA-waived Testing

The Clinical Laboratory Improvement Amendments of 1988 (CLIA) classifies lab testing according to four complexity levels:

1. High complexity
2. Moderate complexity
3. Provider-performed microscopy (a subset of moderate complexity)
4. Waived testing

The vast majority of urgent care centers possess a moderate complexity lab or a waived testing lab. Moderate complexity designation carries with it stringent requirements for compliance on personnel qualification, quality assurance, and controls. When followed, these guidelines help protect the patient.

For those urgent care centers following waived testing rules, the Joint Commission requires several elements of performance.

- The urgent care center should have a designated lab director who is identified on the CLIA certificate; even CLIA-waived labs need a certificate.
- A clinical policy and procedure manual for the practice should be created.
- There should be a policy on collecting and proper labeling of specimens. Whenever possible, specimens should be labeled in the presence of the patient to reduce identification errors.
- Test reagents need to be stored and purged according to manufacturers' instructions.
- Controls on point-of-care tests should be run as indicated.
- There should be quality controls in place for the tests, with guidance for lab personnel when they have an equivocal result. Too often, lab assistants substitute their own judgment when a test is unclear. Instead, they should defer to the provider or repeat the test.
- There needs to be a clear procedure for reporting and documenting the test results, with a separate log of all in-house labs with results to be used as a back-up.
- It is important that lab personnel and the director review manufacturers' instructions when the vendor is changed or the test is updated.

The other critical component of a safe CLIA-waived lab is the lab personnel. Only designated clinical personnel should be allowed to perform lab tests. They should be identified by job title and description (e.g., certified medical assistants). Only personnel that have been properly oriented to the center's lab should perform the tests. New hires should be instructed in the proper performance of each test and their competence documented by a supervisor before they operate independently. A checklist for lab competencies would be helpful, and could be updated annually.

Tracking Lab and X-ray Results

Another area of concern for patient safety is the tracking of outside test results. This includes outside reference labs, pathology specimens, and imaging. Clinics that send blood, urine and stool tests to outside ref-

erence labs must have a tracking system that is reliable for all providers and clinical employees to follow. A paper-based system should include a log of each patient, with the name of the test ordered, when the results were received, when notification was given to the patient, and what follow-up was arranged.

The ABMS recommends that patients be notified of all test results—even normal results—within a 24–48 hour timeframe, and that the communication be documented in the medical record.

Table 3 offers an example of a test tracking log.

Some EMRs allow the provider to track test results within the "To Do List" of the software. A separate log can be created for imaging tests and for referrals to specialists.

Regardless of the system chosen, the key component is the follow-up. Every test should be tracked all the way through the work-flow to the point of follow-up. Designated employees should be tasked with checking the log on a weekly basis to make certain that all tests that were ordered were, in fact, performed. They can also be charged with investigating any missing tests. Not only will this system improve patient safety, but it will also reduce an important source of malpractice liability for urgent care centers.

Physicians should *avoid* telling patients that "no news is good news" when it comes to test results. It is preferable to instruct patients to contact the practice if they have not received the results, normal or abnormal, within a specific time frame. This approach will decrease the risk that a critical result will be missed or delayed and makes patients active partners in their care, which may prevent unnecessary delay.

Critical test results

In addition to tracking routine tests, the clinic should have a process to identify and track critical test results.

According to the ABMS, failure to communicate critical test results is responsible for the majority of adverse events that lead to disability; 85% of these failures are due to a delay in receiving the results.

A critical range should be identified for lab tests so personnel can recognize results that fall outside of the range. As soon as a critical result is received by the lab or clinical personnel, they need to notify one of the providers for guidance.

It is recommended that providers take responsibility themselves for notifying patients of critical test or imaging results. Only a provider can answer the important questions a patient will have in these circumstances, and direct the follow-up or referral of the case. Leaving these conversations to others allows more uncertainty to enter the process. The patient might not understand the diagnosis or the urgency of the matter. The follow-up should be arranged by the urgent care center and tracked to ensure that it has occurred in a timely fashion.

Part 2 of this article, which will be published next month in *JUCM*, will discuss:

- healthcare-associated infection
- radiation
- transitioning care from one provider to another
- emergency preparedness
- personnel qualifications
- patient rights
- discharge considerations. ■

Resources

- Kohn L, Corrigan J, Donaldson M, eds. To err is human: Building a safer health system. Institute of Medicine. National Academy Press Washington, DC, 1999.
- The Joint Commission on Accreditation of Healthcare Organizations. Comprehensive Accreditation Manual for Ambulatory Care 2009. Published by Joint Commission Resources, Oakbrook Terrace IL 2008. Available at *www.jointcommission.org*.
- Institute of Medicine: Committee on Quality of Health Care in America. Crossing the quality chasm: A new health care system for the 21st century. National Academy Press, Washington, DC, 2001.
- Thomsen LA, Winterstein AG, Søndergaard B, et al. Systematic review of the incidence and characteristics of preventable adverse drug events in ambulatory care. *Ann Pharmacother*. 2007;41(9):1411-1426.
- Stevens P, Matlow A, Laxer R. Blueprint for patient safety. *Ped Clin North Am*. 2006;53(6):1253-1267.
- Anonymous. A study of physicians' handwriting as a time waster. *JAMA*. 1979;242:2429-2430.
- Ranji SR, Shojania KG. Implementing patient safety interventions in your hospital: What to try and what to avoid. *Med Clin North Am*. 2008;92(2):275-293.
- Stumpf PG. Practical solutions to improve safety in the obstetrics/gynecology office setting and in the operating room. *Obstet Gynecol Clin*. 2008;35(1):19-35.
- Jenkins RH, Vaida AJ. Simple strategies to avoid medication errors. *Fam Pract Manage*. 2007;14:41-47.
- Physician Practice Patient Safety Assessment. Developed by Institute of Safe Medication Practices and Medical Group Management Association. Available at: *www.physiciansafetytool.org*.
- Brenner DJ, Elliston CD, Hall EJ, et al. Estimated risks of radiation-induced fatal cancer from pediatric CT. *Am J Radiol*. 2001;176:289-296.
- Lee CI, Haims AH, Monico EP, et al. Diagnostic CT scans: Assessment of patient, physician, and radiologist awareness of radiation dose and possible risks. *Radiol*. 2004;231:393-398.
- Kerr C. Ditch that white coat. *Can Med Assoc J*. 2008;178(9):1127.
- Dancer SJ. Importance of the environment in methicillin-resistant Staphylococcus aureus acquisition: The case for hospital cleaning. *Lancet Infect Dis*. 2008 Feb;8(2):101-113.
- Committee on Infectious Diseases. Infection prevention and control in pediatric ambulatory settings. *Pediatrics*. 2007;120(3):650-665.
- Centers for Disease Control and Prevention. Guideline for hand hygiene in health-care settings: Recommendations of the healthcare infection control practices advisory committee and the HICPAC/SHEA/APIC/IDSA Hand Hygiene Task Force. *MMWR*. 2002;51(No. RR-16). Available at*: www.cdc.gov/mmwr/PDF/rr/rr5116.pdf*.