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March 2006 "*Medication Errors Prevention: Update 2006*" 707-000-06-003-H04

THIS MONTH
"Medication Errors"

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HAVE YOU RECENTLY MOVED? PLEASE NOTIFY US.

This is our biannual lesson on 'Medication Errors.' Mistakes cannot be completely eliminated, but they can be reduced and minimized. Our goal is to emphasize the 'team approach' to error reduction, and to discuss techniques that can be used in any pharmacy to reduce occurrences. This lesson provides 3.0 hours (0.3 CEUs) of credit, and is intended for pharmacists in all practice settings.

The program ID # for this lesson is 707-000-06-003-H04.
Pharmacists completing this lesson by March 31, 2009 may receive full credit.

To obtain continuing education credit for this lesson, you must answer the questions on the quiz (70% correct required), and return the quiz. Should you score less than 70%, you will be asked to repeat the quiz. Computerized records are maintained for each participant.

If you have any comments, suggestions or questions, contact us at the above address, or call toll free 1-800-323-4305. (In Alaska and Hawaii phone 1-847-945-8050). **Please write your ID Number (the number that is on the top of the mailing label) in the indicated space on the quiz page** (for continuous participants only).

The objectives of this lesson are such that upon completion the participant will be able to:

1. List requirements for building a safer health care system.
2. Describe factors that set pharmacists up to make errors.
3. Discuss techniques that can assist pharmacists in efforts to reduce the occurrence of errors.
4. Describe the operation of a successful pharmacy CQI program.
5. List the stations that comprise a well-organized pharmacy system.
6. Describe the successful management of patients complaining about an error.

Introduction

All human beings make mistakes. Fortunately, most errors do not cause harm, so the effects of an error do not endure. A hardware store clerk who recommends the wrong light bulb for a fixture, or the fast food employee who includes pickles when expressly asked to withhold them from a hamburger, both have made a mistake and have created an annoyance, but no real harm has occurred. For some of us, the consequences of errors are more significant, because other people are seriously harmed when errors occur. In the professions, educated and licensed people are trusted to do the right thing for those they serve, and the prevention of errors is particularly important. Stock brokers try to prevent the loss of money by their clients. Lawyers use the best of their abilities to achieve justice for the people they represent. Members of the clergy provide the best spiritual support they can to members of their congregation. In health care, doctors, nurses and pharmacists try hard to provide patients with the best care to promote good therapeutic outcomes. Yet, inevitably, there will be situations in which the best is not good enough. Mistakes do happen. To err is human.

Basic Research in Human Error

The American public has high expectations of the dedicated and highly skilled people to whom a monopoly has been given over the practice of the professions. Under almost all circumstances these high expectations are met. However, in a small percentage of the time, when products or services are provided to members of the public, errors do occur. The question is what to do about this. One of the most highly respected researchers in the field of human error is James Reason. As an expert, Dr. Reason has studied why and how human beings make mistakes. He concludes that there is only one possible solution to this problem. It is based on the following maxim: "Fallibility is a part of the human condition. We cannot change the human condition. We can change the conditions under which humans work." According to Dr. Reason, it is the environment in which people work that causes them to err. We cannot make the people any better than they already are, but we can improve the work environment for people who are trying their best. This is the key message of James Reason's book, "Human Error."

In his book, Dr. Reason does not attempt to directly describe anything about pharmacy. He does not even claim to be an expert about health care. His research relates to human beings of all kinds and in all places. There are some lessons of life that are all encompassing. Despite the fact that he did not intend to directly solve problems in pharmacy, the principles, policies and procedures outlined can help those of us in pharmacy understand why errors occur, and how to reduce their frequency. According to Dr. Reason, safety is everybody's business. The message for pharmacy is that management, pharmacists, pharmacy technicians, and clerical support staff must work together to figure out what is productive in a workplace and what is counterproductive. It is a team effort.

One of Dr. Reason's key points is that error is normal. It can be foreseen and anticipated. When it occurs, it should not be over reacted to with surprise or horror. It is an ordinary occurrence that must be incorporated into ordinary professional and business remedial activities. To say that error is normal does not mean that error is welcome or that it is acceptable. It is not. But regarding error as abnormal can lead to reactions of shame and blame. Error can be misunderstood as a tragedy that warrants recrimination, vengeance and punishment. Consideration of error to be anything but normal stands in the way of productive activities that learn from the past and look to the future.

Dr. Reason teaches that safety issues should be reviewed regularly. What he means is that at specifically designated intervals the people in a pharmacy practice setting should take a break, breathe deeply, examine the system in which they work, and implement improvements that maximize patient safety. The alternative may be to wait for a "sentinel event" to scream out at those in the practice setting, after a serious error has occurred and to then react

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to the occurrence. A sentinel is a lookout who sees something wrong because the thing becomes self-evident without needing to look too hard for it. As an alternative to waiting for problems with patient safety to become self-evident and then reacting to them after harm has already occurred to the patient, Dr. Reason suggests that problems should be actively discovered through periodic self examination before any harm has occurred.

During the periodic meetings, Dr. Reason instructs that those in a practice setting should review past events and implement changes based on what can be learned from reflections on the past. The focus of this review should not be on blaming individuals, but on fixing the system to make it less likely that individuals will become involved in future incidents that threaten safety. The review of incidents, to be effective, must rely on contemporaneous documentation of the incidents at the time they occurred, and not on mere memory of them. This process of data analysis makes it possible to see trends in past events. Perhaps there is a trend causing errors to occur on particular days of the week, or with particular drugs or directions. Perhaps there are certain prescribers whose orders tend to be confused more than others. Or it may be that patients, who choose to wait for their prescriptions, rather than pick them up later, are associated with more frequent errors. It is impossible to speculate in advance what the pattern of errors may be in any pharmacy practice setting. But every error in every setting is part of some trend. The challenge is to find the trend. This is a proactive process that teaches from the past and looks to the future.

Once an idea has developed about what may be threatening safety in a pharmacy practice environment, it is imperative that the idea find its way to the top of the organization so that the person who has authority and resources to produce change can consider the idea. This does not mean that all ideas are agreed with by upper management, or that a chain of command can be ignored when time is taken to respond to suggestions. It does mean that all ideas will be welcomed and respected, and that they will be sent up the chain of command until a firm decision is made to accept or reject the idea by the person who has authority over this decision.

Dr. Reason believes that safety is everybody's business. Patient safety is a collegial and facilitative endeavor, where everyone helps everyone else. Meetings on patient safety must be attended by everyone who has any role in a practice setting. This includes management, pharmacists, pharmacy technicians, and clerical support staff. Messengers must be rewarded and not shot. Sometimes, the least educated and least experienced person on the team can ask the most insightful question. Unencumbered by years of bias resulting from experience with "the way we always have done it," a new set of eyes and ears will see and hear things that just don't seem right (i.e., "Why do we arrange the will-call area by name rather than by telephone number when so many of our patients have the same or similar names?"). When this person speaks up, everyone should listen. Today's dumb idea has often turned into tomorrow's brilliant breakthrough strategy.

A culture of safety must characterize every practice site, and the culture must be one of fairness. It must be just. Those who report their own failures, or the failures of others, should be assured that discipline will be separated from quality improvement data collection. There is a role for quality improvement and there is a separate role for discipline. Those who consistently ignore rules, and those who routinely behave in ways that threaten quality, should expect that they will be held to account for their actions. To be responsible means that one will respond to the trust one has been given. To be held accountable means that one will be required to provide an explanation by way of accounting when the trust in which a person of responsibility is held appears to have been betrayed. Often the accounting will be accepted as descriptive of appropriate and responsible conduct. The responsible person will then not be considered culpable for the bad outcome. At other times, the accounting will be considered unacceptable, and the responsible person will be considered culpable for an error. There must be discipline when there is culpability. However, the discipline must be based on well defined standards, and those who judge behavior must include peers of the person being judged.

According to Dr. Reason, effective error prevention programs do not just happen. They result from a firm commitment and a great deal of work. This includes training of all personnel in the recognition of errors and the accurate recording of them. People tend not to see errors unless they look for them, and they need to know what errors look like so they can recognize them when they see them. Once an error is recognized, it is important for the observer to document exactly what has been seen, with sufficient detail that later an evaluator can determine what needs to be done to prevent the error from occurring in the future. This is not an intuitive exercise. It must be purposefully taught and learned. The program must also include frequent feedback on recurrent error patterns. Those who recognize and record errors will be given an extra incentive to continue that activity if there is some benefit to them from doing it. The primary benefit occurs when feedback to the reporters contains useful information about what has been learned from the reports and what can be done to reflect what has been learned.

As good as any error prevention program may be, and as comprehensive as the advance training may be, there is still the need for on-the-spot training when a potential problem is recognized. For example, if a pharmacist determines that a technician is engaging in a practice that threatens patient safety, there is no point in waiting until a distant meeting to change procedures and publish a new policy and procedures manual. The matter should be immediately addressed and rectified. When the meeting is eventually held, and the new policy and procedures manual published, input should be sought from all of those who are doing the jobs covered by the manual. The procedures should avoid idealistic goals and stick to steps that are workable and supported by available resources.

Risk Management

Most large pharmacies have a department of risk management. Even small pharmacies have a person who devotes some percentage of their time to risk management activities. The purpose of risk management is to develop a system of pharmacy practice in which pharmacists and support personnel can be as error free as it is possible to be, given the inevitability of imperfection in the human condition. The philosophy of pharmacy risk management is that pharmacists, who participate as team members in an organized effort to evaluate past failures of quality, and commit to procedures that have been developed to prevent future failures of quality, will reduce the incidence of error in their practices. Risk management is not risk elimination. There is always some risk to patients. In fact, the conscientious pharmacist intentionally places patients at some level of risk, because only by doing this can patients hope to benefit from the medications they receive. But the risk to patients is a measured risk. It is a reasonable risk. That is why it is called a "managed" risk.

The goals of pharmacy risk management are threefold. First, an effective risk management program addresses both mechanical errors and intellectual errors. Pharmacist errors can cause problems for patients as a result of both what pharmacists do and what they fail to do. Mechanical errors are errors of commission resulting from a misstep within practice. Intellectual errors are errors of omission resulting from a lapse within practice. Second, risk management introduces techniques that will reduce errors. Techniques are specific steps that pharmacists can take in practice to improve the quality of what they do. It is impossible to list all safety-related techniques that have been developed for pharmacists, but several examples of them are offered later in this lesson. Each risk management pharmacist must decide what techniques are necessary and useful for that pharmacist's practice site. The third goal of risk management is to introduce a way of thinking. Good risk management pharmacists are constantly on the lookout for ways to improve the safety of what they do. The goal is to think safety first.

In thinking of safety first, pharmacists are basically adhering to the Hippocratic tradition in medicine that teaches, "First, do no harm." This "golden rule" of health care practice requires that the patient always comes first. It is they to whom pharmacists and others in health care owe their livelihood, and it is they who deserve to have their interests placed above all others. This does not mean that profit is a dirty word. Pharmacists who make a living off providing high quality products and services for patients are deriving the just rewards of the efforts. Fortunately, in risk management a choice does not have to be made between safety and profits. Better patient safety means higher profitability. Errors are costly and time consuming. They lead to diminished self esteem and sometimes to large cash payouts. Pharmacy risk management protects patients and it protects profits. The two go hand in hand.

Pharmacists who function effectively in risk management must look at errors in a global sense. For every error, they must ask five questions: Who? Where? What? When? How? The "who" question refers to patients, pharmacy personnel, prescribers and family care givers. Did any of these people fail to meet a well-recognized responsibility? The "where" question asks the risk manager to evaluate the sequence of processes in the pharmacy system and determine which link was the weakest in the chain, causing a problem to occur. The "what" question focuses on the equipment, materials and other resources made available to pharmacists, some or all of which may have been inadequate to support the pharmacist in doing the best he or she could. The "when" question deals with the day of the week or time of day that a patient safety issue occurred. The "how" question examines the environment of practice: factors such as workload, distractions, or interruptions. Each of these questions is designed to provide the risk management pharmacist with adequate information to evaluate threats to quality in a pharmacy practice.

Pharmacists who function as risk managers must recognize that they cannot eliminate all error. The goal for risk management must be realistic. By taking a systems approach, the risk manager can fix the root problem and not simply get rid of the symptoms. If individuals think of patient safety and quality improvement all the time, a system can be developed to enable individuals to succeed. The system will not be perfect, but it will be an improvement on what has been done in the past.

Individual success depends on the ability to absorb errors into the system. Errors are used as opportunities to improve. The old cliché that says "there are no problems, just opportunities" is an apt one for pharmacy risk management. The risk manager accepts responsibility to identify each error, evaluate the error, incorporate everyone into the risk management activities, and eliminate cover-ups. Errors must be identified to facilitate improvement. The risk management cycle begins with risk identification, continues with the selection of techniques to control the risk, moves then to the implementation of the techniques, and ends with monitoring and the implementation of necessary changes to the technique. Then it repeats itself. It never ends. The system gets better and better and better. But it never achieves a state of perfection, because there are always new threats to quality. New doctors, new pharmacists, new patients, new drugs and new diseases constantly bring new opportunities to improve the system in new ways.

Research has shown that of the errors pharmacists make, approximately 85% are mechanical errors. These are errors of wrong drug, wrong strength, wrong directions, wrong dosage form, and wrong patient. The good news is that these are not difficult errors to identify. The bad news is that the cause of these obvious errors is often difficult, if not impossible, to discern. In a way, they are impossibly simple. To people outside pharmacy, it seems so easy to fill prescriptions correctly. But the pharmacy system is so complex that the reality is otherwise. The opportunities for mechanical errors are endless. Of the remaining 15% of pharmacy errors, those that are known as "intellectual" errors, approximately half are related to patient counseling, and half are related to prescription screening. The most rapidly increasing type of pharmacy error is the failure to conduct a prescription screen, or the inaccurate screening of a prescription. Based on these trends, the prudent risk manager will focus efforts primarily on mechanical errors, which comprise the largest percentage of errors, and secondarily on prescription screening, which is the most rapidly growing type of error. All medication errors are important, but trend analysis suggests that these errors are the "hot spots" that warrant special attention.

Taking a Systems Approach

A system is a combination of parts incorporated into a unitary whole, with coordination of inputs and outputs to achieve established goals. Traditionally there has been no comprehensive system of pharmacy practice. Each practice site has either developed its own system or has muddled through without a system. Many factors with which pharmacists must deal present significant challenges to a systematic practice of pharmacy. Orders from physicians to pharmacists are often unclear. Physicians are usually unavailable to clarify these orders. The names of drugs ordered are similar and are easily confused with each other. The packaging of stock bottles of very different drugs is very similar, and the traditional way to organize stock is to place look-alike, sound-alike drug containers right next to each other. There are no clear standards for the management of potential problems such as drug-drug interactions or drug-disease contraindications, and computer systems overwarn pharmacists about potential problems of a trivial nature. In many states there are no standards for pharmacy technician training. Patients believe that the best pharmacy is the fastest and cheapest pharmacy. Third party payers constantly seek ways to compensate pharmacies at lower and lower levels, while they establish administrative barriers for pharmacists who want to do the right thing for their patients. Given the many system problems, it is a true wonder that pharmacists make so few errors.

Despite a strong record of success in practice and empirical evidence that pharmacy errors are quite low, the public expectation of pharmacists is one of perfection, and the profession strives to achieve that unreachable goal. No pharmacy is satisfied that it makes only very few errors or that only a tiny percent of its patients are harmed by pharmacy errors. Pharmacies take a systems view and look for ways to eliminate errors that can be controlled through system improvements. Within this activity, management works on the system to provide tools, training, equipment and materials. Pharmacists and other pharmacy personnel work within the system to follow established procedures and evaluate how the procedures work and when they should be changed. It is teamwork that makes the systems approach effective. Management cannot rely on pharmacy personnel to solve all of their own problems, and pharmacy personnel cannot wait for management to bring them solutions on a silver platter. Together they can achieve at a level that would be impossible to reach separately.

The person who drives the quality improvement activity at any pharmacy is the continuous quality improvement (CQI) consultant. The job of the CQI consultant is not to know the answers, but to ask the right questions of both management and personnel. The CQI consultant organizes periodic meetings and assures that patient safety issues are thoroughly vetted at these meetings.

The need to take a systems view was highlighted in an Alabama lawsuit against a pharmacy, reported in 1995. The case of Harco v. Holloway began as an ordinary case, but it became something extraordinary when the

Supreme Court of Alabama took a systems view in a way no other court had previously done. The court described the facts of the case in this way:

"The prescription was illegible. The pharmacist gave the plaintiff Tambocor, an antiarrhythmic drug used by cardiologists. It is undisputed that the prescription actually called for Tamoxifen. The pharmacist did not attempt to call the physician to verify the accuracy of her reading of the prescription and did not even try to question Ms. Holloway about why her oncologist was supposedly prescribing a heart medication for her."

This is a very typical set of facts in a lawsuit against a pharmacist based on a prescription misfill. Wrong drug errors are the most common type of errors in pharmacy. Almost always the cause is inattentiveness by a pharmacist who was challenged with a lot to do and only a little time to do it in. The words "Tambocor" and "Tamoxifen" begin and end similarly. The first three letters of each word are the same. The letters "r" and "n" at the end of each word are very similar. The pharmacist confused one for the other. This should not happen, but as long as drugs continue to be described using look-alike words, and as long as pharmacy workplaces continue to be so busy that it is difficult to concentrate, this type of error will continue. Pharmacists accept responsibility for such errors, knowing that it is their job to slow down to a reasonable rate of speed and insist on the avoidance of interruptions that can lead to error. Courts impose on pharmacists a responsibility to avoid such errors. The law has held pharmacists liable for errors like this for over 150 years, and will probably continue to do so into the foreseeable future. There is nothing remarkable about this part of the Alabama case.

The remarkable part of the case, in fact the stunning aspect of it, is that the court looked not just to the pharmacist as culpable but to the pharmacy as well. It was the first time a court had understood the shared responsibility of pharmacy personnel and pharmacy management. The court explained its position in this way:

"We note that the jury was also informed of 233 incident reports that had been prepared by Harco employees during the three years preceding the incident. This evidence, in addition to evidence of complaints filed with the State Board of Pharmacy, and the evidence of lawsuits filed alleging misfilled prescriptions, was relevant to show Harco's knowledge of problems, and Harco's having failed to initiate sufficient institutional controls over the manner in which prescriptions were filled."

For the first time ever, a pharmacy corporation was implicated as responsible, and eventually held liable, for failing to establish a practice environment in which pharmacists could succeed rather than fail. Both the pharmacist and the pharmacy were held liable. Quality is a matter of both individual and systems responsibility. A pharmacy system can either set pharmacists up to fail or it can set pharmacists up to succeed. The process through which a pharmacy corporation undertakes to "initiate sufficient institutional controls" over a pharmacy practice is a continuous program that requires learning from the past and improving for the future.

Techniques of Pharmacy Error Prevention

As pharmacy personnel and pharmacy management work together, sharing responsibility for improvements in quality, they will discern specific opportunities to improve in specific ways. By applying what they know about the theory of quality improvement, they will be able to put theory into practice through the development of practice techniques. It is important to implement techniques that will be thoroughly considered by personnel, that have an established purpose, and that can be evaluated to discover whether the purpose has been achieved. Techniques should be periodically reviewed to determine whether they should be continued, discontinued, or modified.

"Mark-It"

One useful technique that has been adopted by many pharmacies is to designate in some way those drugs that are frequently the subject of errors. For example, hydroxyzine and hydralazine may be confused regularly. Or cortisporin otic and cortisporin ophthalmic drops may often be mistaken for each other. There is no "master list" of frequently confused drugs. Rather, each pharmacy will learn that there are trends in its own errors and that one trend is to frequently err with the same drugs.

The "mark-it" system is intended to easily identify for pharmacists those drugs that are frequently confused one for the other. There are many different ways to implement "mark-it." One way is to use colored and very conspicuous shelf dividers between frequently confused drugs, while leaving the drugs on their original shelving. Another approach is to use container "sleeves" for "special care" drugs. These sleeves resemble the insulating sleeves that are often put on cups of hot drinks at boutique coffee shops. Some pharmacies isolate the drugs that have been most frequently dispensed in error on a special out-of-the-way shelf known as "special care" (this should never be called the "problem" shelf or the "errors" shelf). Computer systems may help flag prescriptions that are for drugs that have been prone to error. These many different ways of implementing "mark-it" all have as their single goal the prompting of the pharmacist or pharmacy technician to give a "second thought" to what is being done. A little extra attention may alert the pharmacist or technician to a potential drug switch that would otherwise be missed.

The Basket

Organization is a key to error prevention in pharmacy. As busy as most pharmacies are, it is difficult to avoid having two different patient's prescriptions commingled, and to keep together all materials related to one patient's prescriptions. Many pharmacies use baskets to help keep things organized. Everything having to do with a specific patient's prescriptions is placed in one basket. The baskets can be queued up in a line so they can be dealt with in sequence. Different colored baskets can be used to identify different patient needs. A basket of one color may designate that a patient is waiting for prescriptions. Another color denotes that the patient has chosen to come to the pharmacy later to pick up the prescriptions. Still another color may indicate that there are insurance or other issues to resolve before dispensing the prescribed drugs to a patient.

The basket system works best when there is a linear flow to prescriptions. Much like an assembly line at a manufacturing plant, the linear flow requires that there be a single place to begin prescription processing at one end of a pharmacy work area and a single place to verify prescriptions as ready for delivery at the other end. Work flows in one direction and baskets are passed from one point to another along that flow. Work at one step of the flow must have been completed before a basket is passed to the next step. Some pharmacies have what they call the "red line" beyond which no basket is ever passed unless it has been verified by a pharmacist as ready for dispensing. Nothing is ever taken past the red line by anyone but a pharmacist. Technicians and clerical support staff may assume that if a pharmacist has passed a basket beyond the red line, then the contents are ready to be put into a sack and stored in will-call. But until the red line has been breached by a pharmacist, all baskets are considered to be still in process.

Sack Check

There is nothing more frustrating in pharmacy than to go through all of the necessary steps in accurately processing a prescription and to then deliver to the wrong patient an accurately dispensed prescription. All of the effort undertaken in selecting the right drug, printing appropriate labeling, using the correct container, and resolving problems with the prescriber and with the insurance company, will be for naught if the correctly dispensed drug is given to the wrong person. Because so many people have the same name, or similar names, it is relatively easy to give to one person medications intended for another. Sometimes a switch of medications during a busy time of day leads to medications for Person A being placed in a sack for Person B, and vice-versa.

One way to address the problem of "wrong patient" error is to always open the sack into which a medication has been placed in will-call, and read to the patient the name that is on the prescription vial. This gives the patient the opportunity to either agree that this is the right name, or to indicate that some sort of mix-up must have occurred. Because patients are sometimes rushed or stressed, it is always a good idea during sack check to ask the patient what his or her telephone number is. It is important to have the patient state this affirmatively rather than simply ask the patient to agree that what has been said by a technician or clerk is correct. Sometimes people who are confused agree to things that are not correct. If a patient agrees to his or her name and provides a telephone number that corresponds with what the pharmacy record indicates, it is relatively certain that this is the right patient. Sack check has managed the "wrong patient" error.

Echo and Verify

Many errors in pharmacy are the result of a miscommunication between prescribers and pharmacists when a prescription is telephoned to a pharmacy. Or sometimes, a miscommunication occurs between the prescriber's office staff and a pharmacist. When this happens, the prescriber's records almost always indicate the correct order, while the pharmacist's records indicate an incorrect order. The existence of a "correct" order in the prescriber's record leads to bias in favor of a conclusion that the prescriber could not possibly have been the cause of the miscommunication, with the inevitable result that the pharmacist is held liable for harm caused by an error that exists in the pharmacist's records. To avoid this problem, pharmacists need to create a record that refutes the prescriber's contention that the order was communicated correctly, but received incorrectly at the pharmacy. One of the best ways to develop such a record is called "echo and verify."

The way "echo and verify" works is that for every prescription, the pharmacist first writes the relevant information on a prescription form and then asks to read it back to the person telephoning. The pharmacist says "just to make sure I have this right, please let me read it back." As each element of the prescription is repeated back to the caller—patient name, drug name, quantity prescribed, directions for use, refills, etc.—the pharmacist places a check beside that piece of information. This is the "echo" part of the process. When the caller indicates that the pharmacist has heard the information correctly, the pharmacist places a large "V" on the prescription and initials it,

including also the name of the caller who has "verified" the information. When a prescription is left on an automatic voice recognition device and is taken from a recording by a pharmacist, a similar process can occur if the pharmacist calls back to the prescriber's office when any question arises about what has been prescribed.

Show and Tell

In a pharmacy that has experienced frequent errors, it is often useful to initiate a process called "show and tell" to provide a final check of the accuracy of dispensing. This is a variation and expansion of "sack check," and it incorporates patient counseling activities in addition to the verification of patient identity. While "sack check" can be done by a pharmacy technician or pharmacy clerk, "show and tell" must be done by a pharmacist. Studies have shown that "show and tell" can reduce many of the errors that occur in pharmacies.

In "show and tell" the pharmacist who counsels the patient uses the patient's prescription vial as a prop for the discussion. The pharmacist opens the vial and empties onto the lid one or two of the tablets or capsules that have been dispensed to the patient. The pharmacist tells the patient the name of the drug, and the usual indication for it. The pharmacist then reads to the patient the directions for use, the quantity dispensed and the number of refills remaining, directly from the label. Any uneasy feeling about what the pharmacist has said or done should be followed up with a check on prescription accuracy. If the patient seems concerned about something (i.e., "I thought I was getting a drug for diabetes and not for blood pressure") the accuracy of what is being provided should be checked. Any discrepancy can be addressed before actual delivery of the drug.

Take Five

Pharmacists, like other professional people, are challenged with time restraints. There is not enough time to devote to each prescription. Pharmacists who are in a rush risk making mistakes. The "take five" technique is a way to intentionally slow down when the pace of practice threatens to overwhelm a pharmacist's good judgment. The obvious value of the "take five" technique is that during a busy time of day pharmacy personnel make a special effort to take five seconds to reflect on each prescription at each step of the dispensing process. During those five seconds, attention is paid not just to what is being done at the current step, but also to what has been done during the previous step.

A variation of "take five" occurs when certain drugs have been identified as particularly error prone in a pharmacy. When dispensing the first refill of such a drug, the pharmacist takes five minutes to look up the original prescription for the drug, comparing the original prescription with information in the computer. One major problem with computer records is that they are only as good as the information that was put in them. If incorrect information is entered on the first filling of a prescription, this same error is likely to be continued through subsequent refills unless the original prescription is checked during the first refill. Although it is somewhat time-consuming to do this, it needs to be done with prescriptions for recognized problematic drugs and only on the first refill.

Under 6/Over 66

Many of the errors pharmacists make are with prescriptions for either young or elderly patients. And a significant concern is that such errors cause harm more frequently than do errors with patients who are more robust and better able to recover from adverse effects of a wrongly dispensed drug. It is important to avoid errors with all patients, but it is effective risk management to pay especially close attention to the accuracy of those prescriptions intended for patients who are either under 6 years of age or over 66.

The "under 6/over 66" technique requires some sort of computer prompt when a patient in either of these two age groups has been prescribed a drug that is problematic. Many computer systems have prompts that are age-related. Pharmacists must make sure that either age or birthdate is entered into the computer so that the prompting system can work. Young and old patients often have special dosing needs, and they have a higher risk for drug-drug interactions. When reviewing a prescription for a young or old patient, the pharmacist, who is an effective risk manager, will avoid overlooking a subtle problem simply because the prescription looks satisfactory for a healthy middle-aged patient. The fact of the patient being either young or old should be considered in evaluating the prescription, and an alert should be overridden only when the age factor has been ruled out as the source of any problem.

Partner Check

Every prescription must be checked by a pharmacist before it is dispensed to a patient. In some states and in some practice sites, tech-check-tech is appropriate and is permitted. But in the absence of such a special program, the pharmacist must assure that no patient ever receives a prescription without a pharmacist check.

Despite the attention pharmacists pay to the need for accuracy during their final check, errors do occur. This is because sometimes pharmacists see what they expect to see and not what is actually there. A second "set of eyes" can sometimes catch what the first set has missed.

In times passed there may have been three or four pharmacists working together in overlapping shifts at a single pharmacy. The luxury of additional staff provided the opportunity for a pharmacist who had overseen the dispensing process to ask another pharmacist to check what had been dispensed. The fresh view provided by the second pharmacist created a welcome opportunity to find a problem that was overlooked by the pharmacist who was too close to see it. Most pharmacies today have few overlapping pharmacist hours, if any. A new way to provide a fresh look must be found.

"Partner check" is one way to have a colleague check the accuracy of one's own work, even though the colleague may do it at the end of the day or even the next day. In "partner check" the pharmacist who arrives for a shift examines the new prescriptions from the previous shift, and simply compares what is written on the front of the prescription with the computer label that has been used for dispensing to the patient. This process is greatly facilitated when the custom in the pharmacy is to affix to the back of each new prescription a copy of the label prepared for the vial of that prescription. Usually the comparison will show that the prescribed medication and the dispensed medication are the same. On rare occasions an error will be detected, and usually the error is found within a 24 hour period of dispensing. Sometimes the erroneously filled prescription is still waiting in will-call for pick up. At other times the patient has received the prescription but may not have yet begun using it. At all times the error is corrected very shortly after it has been made, and the consequences of the error are minimized.

Double Trouble

Pharmacy errors usually do not happen in isolation. They usually are part of a cascade of events set off by an occurrence that may seem benign in itself, but the collective results of that occurrence are devastating. Often there are many different unexpected and undesired outcomes of this single occurrence. Some pharmacy errors come in pairs, both resulting from a single stimulus. This is the case, for example, with drug and label switches that result in the drug for one patient being placed in a vial with the label for another patient. A moment's inattention during the processing of a prescription order, or a minor crisis with a patient's concerns over some unrelated matter, can lead to a pharmacist or a technician confusing one vial for another and switching medications.

Usually when drug/vial switches occur, not only does Patient A get Patient B's medication, Patient B also gets Patient A's medication. The pharmacist must be alert for the possibility of "double trouble." It may be that only one of the patients will recognize a problem and contact the pharmacy regarding the problem. The other will remain blissfully unaware that his or her prescription has been dispensed in error. The "double trouble" technique asks that pharmacists to whom a drug-switch error is reported take an active role in trying to find who should have received the dispensed drug. When a thorough investigation discloses that an error occurred and that Patient A received drug X rather than drug Y, the record of dispensing for the day should be examined to determine whether there were any patients who should have received the drug X that was inadvertently dispensed to Patient A. It may be that Patient B received drug Y rather than drug X.

Having identified the Patient B who was supposed to have received drug X, or several patients that day for whom drug X was prescribed, the pharmacist must contact each such patient and ask for a description of the contents of the patient's prescription vial. This will not be an easy call to make, because it will suggest the possibility of an error, and perhaps create concerns when they are unwarranted. But it is a call that must be made. Under the best circumstances it will turn out to be unnecessary, because no second error occurred. The worst outcome is early identification of a second error, in time to set it straight before serious harm has occurred.

The "Two Second" Rule

One final technique that pharmacists have found useful in detecting and absorbing errors is the "two second" rule. This is another technique to use in assuring that the contents of a prescription vial match the label of the vial. With the possibility of switched labels being so high, and the potential consequences being so dire, the "two second" rule requires that no vial containing medication go unlabeled for more than two seconds. This means that immediately after medication is placed in any prescription vial a label is put on that vial. Never is an unlabeled vial left in a place where it can be mistakenly taken and misbranded with the wrong label.

Pharmacists are often asked to address a crisis immediately. They are put in situations where other health care providers, patients, or pharmacy personnel are asking them to drop everything and attend to an urgent matter. While it is important for pharmacists to be flexible and assist when needed, one thing that cannot be dropped to

attend to a crisis is an unlabeled vial. For two seconds the crisis will have to go unresolved. It does not matter that a doctor is calling with an emergency. It will have to wait for two seconds while the unlabeled vial is appropriately labeled. This is something that simply cannot be rushed. The "two second" rule requires taking a minimal amount of time to get a prescription right the first time; saving a huge amount of future time solving a problem that did not have to happen.

Handling a Medication Error

No matter how good a pharmacy system is, and no matter how conscientious, skilled and caring a pharmacist may be, errors will continue to occur. Errors can be minimized, but they cannot be eliminated. Pharmacists must manage errors after they have occurred, to assure the patient is being protected from the consequences of an error that cannot be undone, and to assure that licensing boards understand that the pharmacist who errs has done the right thing after having discovered the error.

The most important thing to do when an error has occurred is to listen to the patient. This is always a pharmacist's responsibility. It should not be delegated to a technician or to non-pharmacist management. When a patient appears at the pharmacy department and says "I think you may have made a mistake with my prescription," technicians and clerical support staff should be trained to always turn the matter over to the pharmacist. This will not occur at a convenient time, of course. It will inevitably happen on a busy day and during the rush time when patients are impatient and doctors are most arrogant. But the patient who is concerned about a potential error must take priority. There should be a private place to take the patient for a consultation at such times. Other patients do not need to overhear this discussion. It is best for the patient and for the pharmacist that an audience not gather to observe or participate in the discussion.

As the pharmacist listens to the patient, it is important to provide supportive feedback, but to not agree to anything the patient says that is open to question. Apologies are always in order, but they must be used in a safe way. When a patient says, "you people are just too busy, this is why you make so many mistakes," the pharmacist should say "I am very sorry you feel that way and I will do everything I can to find out what has happened." Agreeing with the patient is an admission of liability and it may not be true that the pharmacy was too busy or that a mistake has been made. It is permissible to make objective observations, but not to editorialize on them. For example, a pharmacist may say "your prescription was for Drug X, and your vial contains Drug Y," without speculating as to how the wrong drug got into the vial. Leave for later the determination of what happened and how it happened.

Patients who believe they may have been the victims of pharmacy error want to be listened to sympathetically; they want an apology; they want the best explanation they can get of what happened and of the consequences to them of the error (if there even has been an error); and they want reassurance that the cause of any error will be studied and changes will be made to reduce the likelihood of such an error in the future. It is impossible to promise that the error will never happen again, and patients should not expect to receive this promise. But the promise that the error will be incorporated into an organized continuous quality improvement program is a realistic promise that patients should be given.

Conclusion

Medication errors cannot be prevented, but they can be managed. Working together and sharing responsibility, pharmacist and managers can establish effective systems of risk management for the benefit of patients and for the benefit of the pharmacy. There is no generic error prevention program that will work in every pharmacy, because every pharmacy has unique challenges and unique needs. Those working in a pharmacy must join together to determine what techniques will work for them. Implementation of these techniques is the responsibility of everyone associated with the pharmacy, and evaluation of the techniques will teach lessons about what works and what does not work. Pharmacists constantly learn from the past and improve for the future, reducing medication errors that cause harm to patients.

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FLORIDA & NEW YORK PHARMACISTS.

THIS LESSON FULFILLS THE REQUIREMENT FOR "MEDICAL ERRORS" CE.

FOR EVERYONE ELSE, THIS TOPIC IS OF SIGNIFICANCE, NOT ONLY FOR APPROPRIATE PATIENT OUTCOMES, BUT ALSO BECAUSE IT IS A HIGHLY VISIBLE SUBJECT THAT CONSUMERS (AND THE PRESS) ARE CONCERNED ABOUT. OUR RESPONSIBILITY AS PHARMACISTS IS TO BE OPEN-MINDED, AND DO WHATEVER IT TAKES TO REDUCE THE INCIDENCE OF ERRORS.

Fill in the information below, answer questions and return **Quiz Only** for certification of participation to:
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LESSON EVALUATION

Please fill-out this section as a means of evaluating this lesson. The information will aid us in improving future efforts. Either circle the appropriate evaluation answer, or rate the item from 1 to 7 (1 is the lowest rating; 7 is the highest).

1. Does the program meet the learning objectives?

List requirements for safe health care system	Yes	No
Describe factors that contribute to pharmacy errors	Yes	No
Discuss techniques that can reduce errors	Yes	No
Describe a successful CQI program	Yes	No
List the stations of a well-organized system	Yes	No
Describe management of a suspected error	Yes	No

2. Was the program independent & non-commercial? Yes No

	Poor			Average			Excellent
3. Relevance of topic to your practice	1	2	3	4	5	6	7

4. What did you like most about this lesson?_____

5. What did you like least about this lesson?_____

(WATCH OUR WEBSITE FOR RESULTS OF PARTICIPANT EVALUATIONS)

Quiz—Please Select the Most Correct Answer

1. According to Dr. James Reason, what is it that causes people to err in the workplace?
   A. Moral lapses
   B. Incompetence
   C. The environment
   D. Lethargy
2. Whose responsibility is it to figure out what is productive & what is counter-productive in a pharmacy?
   A. Pharmacists only
   B. Management only
   C. Pharmacists & management only
   D. The entire team
3. According to Dr. James Reason, how should errors be regarded?
   A. As normal
   B. As tragic
   C. As unexpected
   D. As aberrant
4. What types of errors occur in pharmacy?
   A. Errors of omission, but not of commission
   B. Errors of commission, but not of omission
   C. Both errors of commission & omission
   D. Neither errors of commission nor of omission
5. What does it mean to say that a person is held accountable?
   A. The person is responsible
   B. The person must provide an explanation
   C. The person is culpable
   D. The person is liable
6. What is the purpose of a risk management program in pharmacy?
   A. To avoid all errors
   B. To prevent all errors
   C. To be as error free as possible
   D. To distract attention from errors
7. When past events are reviewed during periodic meetings to evaluate errors, what should be the focus?
   A. Blaming individuals
   B. Blaming corporations
   C. Blaming third party payers
   D. Fixing the system
8. What is generally considered to be the "golden rule" of health care?
   A. "To err is human"
   B. "First, do no harm"
   C. "Start low & go slow"
   D. "Pharmaceutical care"
9. What step begins the risk management cycle?
   A. Selection of techniques
   B. Implementation of techniques
   C. Risk Identification
   D. Monitoring
10. One effective technique to reduce medication errors is to identify stock bottles of frequently confused drugs using very conspicuous shelf dividers. This technique is called "Mark-It."
    A. True B. False

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