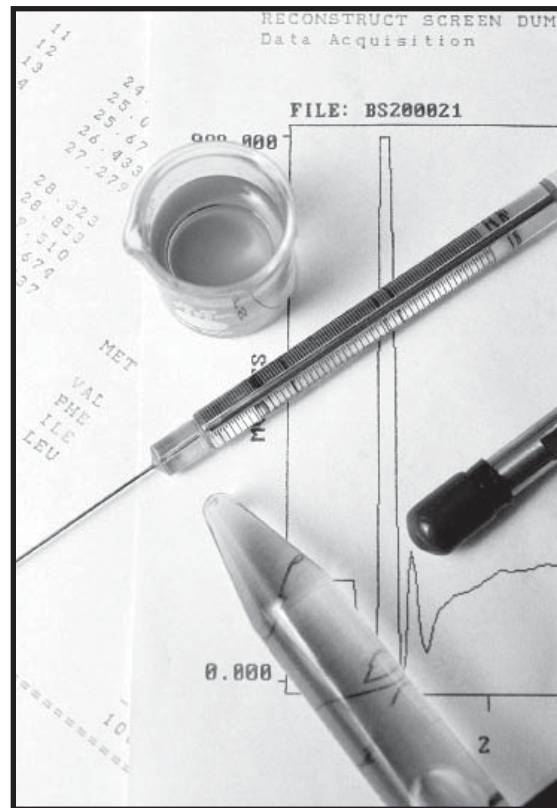


P revention of



M edical E rrors

Prevention of Medical Errors

Course #2011

2 Contact Hours

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About the Authors

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Purpose and Goals

The goal of the enclosed course is to provide health care professionals with an overview of the problem of medical errors, factors contributing to the occurrence of these errors, and steps that can be taken by institutions and individual care providers to reduce medical errors in key care settings.

Instructional Objectives

Upon completion of this course, the motivated student should be able to:

1. Delineate factors contributing to the occurrence of medical errors
2. Outline error prone situations and vulnerabilities among special populations
3. Identify processes for improvement of patient outcome
4. Recognize caregivers' responsibilities for reporting medical errors
5. Name methods to increase public awareness of medical errors and how to prevent them.

Introduction

Patient safety is one of the Nation's most pressing health care challenges. A historical monumental report by the Institute of Medicine of the National Academy of Sciences (IOM), dropped a bombshell on the health care community and the general public alike with its publication of "To Err is Human: Building a Safer Health System". While evidence of medical error has existed for some time, and has long been acknowledged within the medical community, the report captured the public's attention by revealing the magnitude of this pervasive problem and presenting it convincingly. The information presented in the

report is not new. Many studies, some nearly fifty years old, have shown that patients were frequently injured by the same medical care that was intended to help them.

Despite some improvements following the study, not enough has been done to curb the epidemic of medical errors; studies show billions of dollars are wasted each year and thousands of lives are needlessly lost.

Subsequent studies suggest that the medical error rate is even higher. These statistics are a call to action for health care professionals to explore creative ways to implement patient safety practices in their systems and procedures.

In addition to this terrible human toll, medical errors and the problems they can cause — including bed sores, post-op infections and implant or device complications — cost the U.S. economy \$17 billion to \$30 billion in 2013, according to the American Medical Association. A report published by the Journal of Patient Safety estimates the errors caused between 40,000 to 80,000 avoidable deaths annually. These errors include diagnostic errors, errors of omission, errors of context, and communication errors.

Many of these adverse events are associated with the use of pharmaceuticals, and are potentially preventable. Each year, patients in the United States experience at least 1.5 million preventable injuries due to medication errors, according to the findings of an Institute of Medicine analysis. All of us can recall at least one or two sensational stories in newspapers, on television, or in magazine articles of a tragic medical error that has forever changed the life of the victim and his family. The National Coordinating Council for Medication Error Reporting and Prevention (NCCMERP) has identified medication errors that include events related to improper prescribing, order communication, product labeling, packaging, compounding, dispensing, distribution, administration and monitoring of medications.

The perception of medical errors among health care providers and the public has been shaped over the years primarily by such anecdotal reports in the popular press, and the proposed remedies have generally focused on fixing blame on individual providers, including health plans, hospitals, doctors, pharmacists, nurses, and other caregivers. However, the IOM report concludes that the majority of medical errors are the result of systemic problems rather than poor performance by individual providers, and thus has created a whole new approach to preventing medical mistakes and improving patient safety.

Defining & Recognizing Medical Errors

An error is defined as the failure of a planned action to be completed as intended or the use of a wrong plan to achieve an aim. Errors can include problems in practice, products, procedures, and systems. Errors are important because of their potential effect on patient safety. The enhancement of patient safety thus encompasses three related activities: preventing errors, making errors visible, and mitigating the effects of errors.

Not all bad outcomes for patients are due to medical errors. Patients may not be cured of their disease or disability despite the fact that they are provided optimal care. Likewise, not all adverse events that are the result of medical care are, in fact, errors. An adverse event is defined broadly as an injury that was caused by medical management and that resulted in measurable disability. Some adverse events result from a complication that cannot be prevented given the current state of knowledge. For example, many drugs, even when used appropriately, have a chance of side effects, such as nausea from administration of a chemotherapy agent. A case of severe nausea would be an adverse event, but it would not be considered a medical error to have given the chemotherapy medication if it was otherwise indicated for the patient's treatment. Medical errors are adverse events that are preventable with our current state of medical knowledge.

Consideration of errors is usually expanded beyond preventable adverse events that lead to actual patient harm to include near misses, also sometimes referred to as close calls. A near miss is an event or situation that could have resulted in an accident, injury, or illness, but did not, either by chance or through timely intervention. Experience in other industries, including aviation, manufacturing, and nuclear energy, demonstrates that there is as much to learn from close calls as there is from incidents leading to actual harm.

The process by which medical errors are identified and addressed varies from institution to institution. However, many facilities utilize an approach called root cause analysis. This tool is part of an overall process for identifying prevention strategies by focusing on changes that need to be made to health care delivery systems. Root cause analysis involves those who are most familiar with the problem situation and encourages them to dig deeper into the problem by asking "why" at each stage of cause and effect. Human factors as well as the impact of related processes and systems are taken into account. The immediate goal of the root cause analysis is to generate specific prevention strategies, but it also is designed

to foster a culture of safety in the organization that uses it. The technique is used in the Veterans Health Administration hospitals and clinics around the country. It has also been recommended for use in conjunction with the evaluation of sentinel events to be reported to the Joint Commission on Accreditation of Healthcare Organizations (JCAHO).

Factors Contributing to Medical Errors

The rate of health care errors is far higher than the error rate in the other industries listed above, which also rely on systems that include the interaction of humans and technology to perform a number of functions leading to an outcome. Although there are similarities, health care is distinct in its complexity. For example, Leape noted in 1994 that a patient in an intensive care unit is the recipient of an average of 178 different activities performed per day that rely on the interaction of monitoring, treatment, and support systems.

The decentralized and fragmented nature of the American health care industry also contributes to the problem of errors, as can be illustrated by the process of prescription and delivery of medications. The medication process requires the successful completion of at least five interdependent steps: ordering, transcribing, dispensing, delivering, and administering. Poor system design can create numerous opportunities for error in any one of these steps.

Organizational factors may also contribute significantly to the occurrence of medical errors. Within many hospitals, departments are only loosely linked, and communications between primary care doctors and medical specialists are notoriously poor. As a result, information on problems, as well as improved practices to reduce errors and enhance safety, in one department or one facility do not migrate quickly to others. The variety of settings in which health care is provided (including hospitals, nursing homes, clinics, ambulatory surgery centers, private offices, and patients' homes) and the transitions of patients and providers among them provide additional challenges.

Errors may be especially difficult to recognize in health care because variations in individuals' responses to treatment are expected. Medical professionals may not recognize that a particular product or procedure contributed to or caused the problem because the patient is already ill, the product is not expected to work perfectly at all times, or the event appears unrelated to the product or procedure. Lack of recognition of a service's role in adverse events reduces reporting of the association

and the opportunity to learn from previous experiences with the product. Because medical errors usually affect only a single patient at a time, they are treated as isolated incidents, and little public attention is drawn to these problems when compared with aviation or nuclear power accidents. Health care errors are also underreported due to liability and confidentiality concerns.

Perhaps the greatest barrier to the improvement of patient safety through reduction of medical error, however, has been due to the professional culture within the healthcare community. Adverse medical events have existed since the beginning of organized medical practice, but may not have been recognized at the time of their occurrence. When errors were recognized, they were invariably attributed to mistakes by individual practitioners; and the naming, blaming, and shaming approach to dealing with errors limited effective problem resolution.

The IOM reports make it clear that the majority of medical errors today are not produced by provider negligence, lack of education, or lack of training. Rather, errors occur in our health care systems due to poor systems design and organizational factors, much as in any other industry. For example, health care workers are sometimes expected to work 24-hour shifts to ensure patients are cared for and have some continuity of care, although it is known that overwork and fatigue lead to decreased mental concentration and alertness. They are expected to rely on their memories and deliver safe care without substantial investments in information technology or even the simple application of checklists. They often deliver care through a set of complex processes, although industry has shown that the probability of performing a task perfectly decreases as the number of steps in the process increases. Finally, they are expected to work in a climate where one error, even if not preventable, may mean a catastrophe or the end of a career. Improvement of the systems by which medicine is practiced will therefore be necessary to reduce the incidence of medical error.

Problems and Possible Solutions

Almost everyone in the modern world takes medication at one time or another. According to one estimate, in any given week, four out of five U.S. adults will use prescription medicines, OTC drugs, or vitamin/mineral, herbal supplement of some sort, and nearly one-third adults will take five or more different medications.

Most of the time these medications are beneficial, or at least they cause no harm, but on

occasion they do injure the person taking them. Some of these adverse drug events (ADEs) are inevitable—the more powerful the drug, the more likely it is to have harmful side effects.

Another major area of medical error is the improper administration of medications. When all types of errors are taken into account, a hospital patient can expect on average to be subjected to more than one medication error each day. However, substantial variations in error rates are found across facilities.

One study estimated 380,000 preventable ADEs in hospitals each year, another estimated 450,000, and the committee believes that both are likely to be underestimates. The numbers are equally disturbing in other settings. One study calculates, for example, that 800,000 preventable ADEs occur each year in long-term care facilities. Another study, published in 2014 by the *Journal of Pharmacy Practice*, evaluated medication discrepancies in transition of care between patients discharged in hospitals and primary care follow-up. The researchers in this study concluded that the most common medication errors that occurred after patients were discharged from hospitals were nonadherence and underuse of prescribed medications. The study ultimately concluded that failure to implement a medication monitoring program and the absence of complete instruction at the time of discharge was the primary barrier to effective medication management.

In some instances the errors originate with the order itself: it may be illegible, incomplete (e.g., 650 mg Tylenol - no route, no frequency indicated), or blatantly incorrect (5 mg Lanoxin po, qd, when in reality only 0.5 mg was meant).

Name confusion is another common cause of drug related errors. For example, the antiepileptic drug Lamictal has often been confused for the antifungal drug Lamisil. The volume of errors involving the two drugs was so large that Glaxo Wellcome, Lamictal's manufacturer, launched a campaign to warn pharmacists of possible errors. There have also been countless reports of confusion among the arthritis drug Celebrex, the anticonvulsant Cerebyx, and the antidepressant Celexa; fortunately none of these has resulted in serious harm to a patient.

Under the FDA's authority to regulate drug labeling, the agency evaluates medicine brand names and works with the drug company to change the product's name if necessary to avoid confusion. FDA is also developing new standards to prevent name confusion, and to reduce similar-appearing drug packaging.

Most medical centers use computer programs and other systems support to double-check care decisions by doctors and nurses. Even simple computer systems that replace handwritten prescriptions with electronic ones

have resulted in substantial error reductions. Bar coding systems have been developed in which the patient, nurse, and medication have ID strips which can be scanned to verify that the drug is being given correctly and will not cause drug interactions. Also, storage of concentrated potassium chloride, large containers of insulin, and other potentially hazardous medications is now recommended well away from patient care areas. Still, the vigilance of the health care provider is often key to the medication process. One of the many ways a nurse is expected to safeguard a patient is to know all about the medications to be administered. This knowledge includes the medication name, action, use, dose, route, elimination, side effects, contraindications, and nursing considerations. If the nurse is unsure about any of these points, the answer should be obtained before the medication is administered.

Other nursing considerations include teaching the patient about the medications he is receiving, administering only those medications which you have personally prepared, taking a thorough drug history to include allergies, and being aware of potential drug-drug and drug-food interactions. Medication errors and idiosyncratic reactions should be noted on an incident report and in the nurse's notes, and the physician and the supervisor should be informed.

Special Populations

Children have been shown to be particularly vulnerable to medication errors. Such errors have been shown to be common in pediatric hospital settings, with the rate for potential adverse drug events three times higher for children than for adults. Doses of children's medications are determined by weight, and the extra calculations involved leave room for possible error. Also, few drugs have been specifically tested for pediatric use, so physicians often must estimate dosages in order to treat children. It may be difficult to get children to cooperate adequately with various aspects of care. Lack of familiarity among health care providers with standards of care for rare pediatric illnesses may also lead to medical error.

The elderly also seem to be particularly vulnerable to medical error; this has been attributed to the increased complexity of their care rather than to any systemic discrimination against provision of good care to this age group. As with most patient populations, a major source of adverse events in the elderly is medication error. Cardiovascular drugs are the leading class of drugs that produce adverse drug reactions in the elderly, followed by central nervous system active agents, nonsteroidal anti-inflammatory drugs (NSAIDs), endocrine agents, anti-infectives, gastrointestinal agents,

respiratory agents, and blood formation and coagulation agents. Surprisingly, warfarin, despite its narrow therapeutic index, causes the lowest number of adverse drug events. Polypharmacy is a significant concern in the care of elderly patients and can lead to hospitalizations for gastrointestinal bleeds, falls resulting in fracture, low blood sugars, and dehydration.

The Patient Safety and Quality Improvement Act of 2005

This Act was created in response to growing concern about patient safety in the United States. It created Patient Safety Organizations (PSOs) to collect, aggregate, and analyze confidential information reported by health care providers.

Prior to this Act, patient safety improvement efforts were often hampered by the fear of discovery of peer deliberations, resulting in under-reporting of events and an inability to combine sufficient patient safety event data for analysis. By analyzing patient safety event information, PSOs have been able to identify patterns of failures and propose measures to eliminate patient safety risks and hazards. It encourages voluntary reporting of errors without fear of retribution.

Data, stripped of identifiers, is maintained by public or private entities. The analysis of the information collected has been used to improve medical systems and practice. This is a common-sense law that gives legal protections to health professionals who report their practices to patient safety organizations. By providing critical information about medical procedures, health care professionals can help others learn from their experiences.

Patient Safety & Medical Liability Reform: Putting Patients First

Over the past 30 years, a great deal of attention has been paid to our Nation's system for handling medical error claims. The experience of health care organizations since publication of the Institute of Medicine (IOM) report has led to some consensus on the necessary components of effective error prevention systems. In an effort to help eliminate or reduce these risks the Agency for Healthcare Research and Quality (AHRQ) allocated large sums of grant money to implement and evaluate patient safety approaches and liability reforms. Grants test models that:

- Put patient safety first and work to reduce preventable injuries.
- Foster better communication between

doctors and their patients.

- Ensure that patients are compensated in a fair and timely manner for medical injuries, while also reducing the incidence of frivolous lawsuits. Reduce liability premiums.

The foundation for such systems needs to rest on thoughtfully developed programs within local health care organizations, managed and directed by local personnel. These programs should be complemented by coordinated, external support and guidance from Federal, State, and non-governmental agencies and organizations.

Importance of National Patient Safety Goals

National Patient Safety Goals are a series of specific actions that accredited organizations are required to take in order to prevent medical errors such as miscommunication among caregivers, unsafe use of infusion pumps, and medication mix-ups. A panel of national safety experts has determined that taking these simple, proven steps will reduce the frequency of devastating medical errors.

2014 National Patient Safety Goals (JCAHO)

The purpose of the National Patient Safety Goals is to improve patient safety. The following goals focus on problems in health care safety and how to solve them.

Ambulatory Care/ Home Care

1. Identify patients correctly

Use at least two ways to identify patients. For example, use the patient's name and date of birth. This is done to make sure that each patient gets the correct medicine and treatment.

Make sure that the correct patient gets the correct blood when they get a blood transfusion. Label containers used for blood and other specimens in the presence of the patient.

2. Use medicines safely

Before a procedure, label medicines that are not labeled, such as medicines in syringes, cups and basins. Do this in the area where medicine and supplies are set up.

Take extra care with patients who take blood thinners.

Record and pass along correct information about a patient's medicines. Find out what medicines the patient is taking. Compare those medicines to new medicines given to the patient. Make sure the patient knows which medicines to take when they are at home. Tell the patient it is important to bring their up-to-date list of medicines every time they visit a doctor.

3. Prevent Infection

Use the hand cleaning guidelines from the Centers for Disease Control and Prevention or the World Health Organization. Set goals for improving hand cleaning. Use the goals to improve hand cleaning.

Use proven guidelines to prevent infection after surgery.

4. Prevent Mistakes in Surgery

Make sure that the correct surgery is done on the correct patient and at the correct place on the patient's body.

Mark the correct place on the patient's body where the surgery is to be done. Pause before the surgery to make sure that a mistake is not being made.

5. Prevent Patient Safety Risks

Assess the patient's risk for falls and educate staff regarding interventional techniques to help reduce falls. For example, is the patient taking any medicines that might make them weak, dizzy or sleepy? Take action to prevent falls for these patients.

Find out if there are any risks for patients who are getting oxygen. For example, fires in the patient's home.

Find out which patients are most likely to try to commit suicide.

6. Office-Based Surgery Care

The same goals are appropriate as in Ambulatory Care/ Home Care, but in addition:

1. Reduce the risk of post-surgery infections:

Educate patients and their families about surgical site infection preparation.

Measure surgical site infection rates for the first 30 to 90 days following surgical procedures based on the National Healthcare Safety Network procedural codes.

2. Comply with protocol to prevent wrong site and wrong procedure: Gather information and verify the correct site prior to the start of any surgical procedure. Address any missing information or discrepancies prior to initiating the procedure.

Long-Term Care

The same goals are appropriate as in Ambulatory Care/ Home Care, but in addition:

1. Prevent decubitus ulcers

Find out which residents are most likely to have decubitus ulcers. Take action to prevent wound development in these patients. From time to time, re-check residents for bed sores.

Note: Details and the exact language of the goals can be found at www.jointcommission.org

Reporting Responsibilities

Currently, several databases exist that collect information on specific types of errors, such as the Center for Disease Control and Prevention's hospital acquired infections reporting systems, the Food and Drug Administration's adverse drug and device event reporting systems, and JCAHO's sentinel event system. Individual institutions or health care systems may have their own internal data collection system, such as that at the Veterans Health Administration. A number of states have also implemented systems for facilities within their boundaries. Unfortunately, all of these systems have been limited by underreporting of adverse events, and the problem is especially severe for systems designed to hold organizations or individuals accountable for bad outcomes. In order for any system for reduction of medical errors to be effective, it is essential that errors be reported and evaluated. Effective programs need to incorporate protection from legal discovery and liability, which cause errors to be concealed.

Basic tenets of a successful reporting system are that those who report must feel safe in doing so and that their confidentiality must be protected. Reporting systems in which these factors are missing are generally unsuccessful in obtaining data, inaccurate, and incomplete. The question "Who did it?" is not important. However, it is critical to find out what happened, why it happened, and how it can be prevented in the future.

The IOM recommends a two-tier error reporting system: a nationwide, state-based system that includes mandatory reporting of mistakes that result in death or serious injury, and a voluntary reporting system for other medical mistakes, including those so-called close calls or near misses. Considerable support exists for Federal and State legislation that protects provider and patient confidentiality, while safeguarding the legal remedies of those whose health has been harmed.

The Role of the Healthcare Professional

The frequency and types of medical errors are well documented, but less is known about potential errors that were intercepted by nurses. What about the type, frequency, and potential harm of recovered medical errors reported by registered nurses?

Nurses are known to protect patients from harm. Several studies on medical errors found that there would have been more medical errors reaching the patient had not potential errors

been caught earlier by nurses.

A study completed by Nursing Informatics and Research, Partners HealthCare System, in 2010 used The Recovered Medical Error Inventory, a 25-item empirically derived and internally consistent ($\alpha = .90$) list of medical errors, was posted on the Internet. Participants were recruited via e-mail and healthcare-related listservs using a nonprobability snowball sampling technique. Investigators e-mailed contacts working in hospitals or who managed healthcare-related listservs and asked the contacts to pass the link on to others with contacts in acute care settings.

The results showed that during one year, 345 CCRNs reported that they recovered 18,578 medical errors, of which they rated 4,183 as potentially lethal. The researchers in this study concluded that surveillance, clinical judgment, and interventions by CCRNs should be enhanced to identify, interrupt, and correct medical errors protected seriously ill patients from harm.

A more recent study, published by the American Association of Critical-Care Nurses investigated the problem of healthcare worker's reluctance to speak up when confronted with medical errors. Researchers in this study interviewed 6,500 nurses and nurse managers across the United States. The results of the interviews revealed that too often, nurses did not alert their colleagues when they observed a safety measure being violated. According to the study, more than 80% of nurses stated that they had concerns about safety issues and more than 50% witnessed dangerous events; however, only 17% discussed their concerns with colleagues.

The findings of this study reveal that a tacit culture of silence regarding medical errors in American hospitals can undermine safety measures that help to prevent medical errors. It's ultimately up to healthcare professionals to identify and report potential mistakes, which may cause harm to their patients.

Patient Role in Prevention of Medical Errors

Well-informed patients are key participants in the effort to enhance the quality and safety of American health care. The right question from a patient at the right time may be the intervention that averts an error. Initiatives have been undertaken to encourage programs geared to education of the individual patient as well as the public at large.

An example of the latter is the Food and Drug Administration's "Take Time to Care" program, a national public awareness cam-

paign about safe medicine use.

Reducing preventable ADEs will demand the attention and active involvement of everyone involved. This effort will pay off in far fewer medical errors and preventable adverse drug events, far less harm done to patients by medications, and far less cost to the nation's economy.

Patient Education-- What You Can Do

Personal/Home Care

Maintain a list of prescription drugs, non-prescription drugs and other products, such as vitamins and minerals, you are taking. Take this list with you whenever you visit a health care provider and have him or her review it. Be aware of where to find educational material related to your medication(s) in the local community and at reliable web sites.

Ambulatory Care/ Outpatient Clinic

Have the prescriber write down the name of the drug (brand and generic, if available), what it is for, its dosage, and how often to take it, or provide other written material with this information. Have the prescriber explain how to use the drug properly. Ask about the drug's side effects and what to do if you experience a side effect.

Pharmacy

Make sure the name of the drug (brand or generic) and the directions for use received at the pharmacy are the same as that written down by the prescriber. Know that you can review your list of medications with the pharmacist for additional safety. Know that you have the right to counseling by the pharmacist if you have any questions. You can ask the pharmacist to explain how to properly take the drug, the side effects of the drug, and what to do if you experience side effects (just as you did with your prescriber). Ask for written information about the medication.

Hospital Inpatient Care

Ask the doctor or nurse what drugs you are being given at the hospital. Do not take a drug without being told the purpose for doing so.

Exercise your right to have a surrogate present • whenever you are receiving medication and are unable to monitor the medication-use process yourself.

Prior to surgery, ask whether there are medications, especially prescription antibiotics, that you should take or any that you should stop taking preoperatively. Prior to discharge, ask

for a list of the medications that you should be taking at home, have a provider review them with you, and be sure you understand how these medications should be taken.

Source: Committee on Identifying and Preventing Medication Errors, Institute of Medicine

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20 Tips to Help Prevent Medical Errors

<http://www.ahrq.gov/patients-consumers/care-planning/errors/20tips/index.html>

Adapted from information obtained by the Agency for Healthcare Research and Quality, Rockville, MD. 2011

What are Medical Errors?

Medical errors can occur anywhere in the health care system: In hospitals, clinics, surgery centers, doctors' offices, nursing homes, pharmacies, and patients' homes. Errors can involve medicines, surgery, diagnosis, equipment, or lab reports. These tips tell what you can do to get safer care.

One in seven Medicare patients in hospitals experience a medical error. But medical errors can occur anywhere in the health care system: In hospitals, clinics, surgery centers, doctors' offices, nursing homes, pharmacies, and patients' homes. Errors can involve medicines, surgery, diagnosis, equipment, or lab reports. They can happen during even the most routine tasks, such as when a hospital patient on a salt-free diet is given a high-salt meal.

Most errors result from problems created by today's complex health care system. But errors also happen when doctors* and patients have problems communicating. These tips tell what you can do to get safer care.

What Can You Do to Stay Safe?

The best way you can help to prevent errors is to be an active member of your health care team. That means taking part in every decision about your health care. Research shows that patients who are more involved with their care tend to get better results.

Medicines

1. **Make sure that all of your doctors know about every medicine you are taking.** This includes prescription and over-the-counter medicines and dietary supplements, such as vitamins and herbs.
2. **Bring all of your medicines and supplements to your doctor visits.** "Brown bagging" your medicines can help you and your doctor talk about them and keep your records up-to-date and help you get better quality care.
3. **Make sure your doctor knows about any allergies and adverse reactions you have had to medicines.** This can help you to avoid getting a medicine that could harm you.
4. **When your doctor writes a prescription for you, make sure you**

can read it. If you cannot read your doctor's handwriting, your pharmacist might not be able to either.

5. **Ask for information about your medicines in terms you can understand—**
 - What is the medicine for?
 - How am I supposed to take it and for how long?
 - What side effects are likely? What do I do if they occur?
 - Is this medicine safe to take with other medicines or dietary supplements I am taking?
 - What food, drink, or activities should I avoid while taking this medicine?
6. **When you pick up your medicine from the pharmacy, ask:** Is this the medicine that my doctor prescribed?
7. **If you have any questions about the directions on your medicine labels, ask.** Medicine labels can be hard to understand. For example, ask if "four times daily" means taking a dose every 6 hours around the clock or just during regular waking hours.
8. **Ask your pharmacist for the best device to measure your liquid medicine.** For example, many people use household teaspoons, which often do not hold a true teaspoon of liquid. Special devices, like marked syringes, help people measure the right dose.
9. **Ask for written information about the side effects your medicine could cause.** If you know what might happen, you will be better prepared if it does or if something unexpected happens.

Hospital Stays

10. **If you are in a hospital, consider asking all health care workers who will touch you whether they have washed their hands.** Hand-washing can prevent the spread of infections in hospitals.
11. **When you are being discharged from the hospital, ask your doctor to explain the treatment plan you will follow at home.** This includes learning about your new medicines, making sure you know when to schedule follow-up appointments, and finding out when you can get back to your regular activities. It is important to know whether or not you should keep taking the medicines you were taking before your hospital

stay. Getting clear instructions may help prevent an unexpected return trip to the hospital.

Surgery

12. **If you are having surgery, make sure that you, your doctor, and your surgeon all agree on exactly what will be done.** Having surgery at the wrong site (for example, operating on the left knee instead of the right) is rare. But even once is too often. The good news is that wrong-site surgery is 100 percent preventable. Surgeons are expected to sign their initials directly on the site to be operated on before the surgery.
13. **If you have a choice, choose a hospital where many patients have had the procedure or surgery you need.** Research shows that patients tend to have better results when they are treated in hospitals that have a great deal of experience with their condition.

Other Steps

14. **Speak up if you have questions or concerns.** You have a right to question anyone who is involved with your care.
15. **Make sure that someone, such as your primary care doctor, coordinates your care.** This is especially important if you have many health problems or are in the hospital.
16. **Make sure that all your doctors have your important health information.** Do not assume that everyone has all the information they need.
17. **Ask a family member or friend to go to appointments with you.** Even if you do not need help now, you might need it later.
18. **Know that "more" is not always better.** It is a good idea to find out why a test or treatment is needed and how it can help you. You could be better off without it.
19. **If you have a test, do not assume that no news is good news.** Ask how and when you will get the results.
20. **Learn about your condition and treatments by asking your doctor and nurse and by using other reliable sources.** For example, treatment options based on the latest scientific evidence are available from the Effective Health Care Website.