

Prevention of Medical Errors

By

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pattern.

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Chapter 1

Why Study Medical Errors?

The state of Florida has made medical errors a continuing education requirement for Florida massage therapists. Aside from that, there may be other reasons for knowing about medical errors.

Some massage therapists have found a niche in the medical field, demonstrating skills which are enhancements in medical patient care. Other massage therapists are detached from this. Still others, who have pursued different health avenues, may feel counter to the medical industry all together.

For those in the first category, having an authentic connection to the medical industry expects one to have knowledge of its prevailing issues and not remain a stranger to the culture. Even if one is detached from or counter to conventional medicine, learning about medical errors is a useful backstage view into the inner workings of a predominant industry.

Chapter 2

The Scope of Medical Errors

Medical errors are American's eighth leading cause of death, beating the more commonly feared breast cancer.

In 1999 the Committee on Quality of Health Care in America, Institute of Medicine (IOM) conducted two large studies, one in Colorado and Utah, the other in New York. Based on the Colorado and Utah findings, it was determined that at least 44,000 patients in hospitals die from medical errors each year. Based on the New York study, it was determined that the number could be closer to 98,000. These numbers were relative to the 1997 patient admissions in all U.S. hospitals which were over 33.6 million.

The IOM reported that every year at least one million medication errors of a serious nature occur in hospitals alone. Medical errors are so prevalent that one in five Americans admit they or family members have been a victim of a medical error either by a doctor or in a hospital.

Chapter 3

Root Cause Analysis and the Sentinel Event

Overview

One of the methods used to prevent medical errors is Root Cause Analysis (RCA). This is a process used to determine why a medical error occurred and how to prevent its reoccurrence. In hospitals and patient care facilities, the use of RCA is mandated by the Joint Commission on Accreditation of Healthcare Organizations (JCAHO).

RCA in a hospital setting is triggered by a *sentinel event*. This can be an unexpected serious injury (whether psychological or physical) or death of a patient from a cause not related to the natural cause of the illness. The 20 most common sentinel events, according to JCAHO, are:

- Patient suicide
- Wrong-site surgery
- Operative or postoperative complications
- Medication error
- Delay in treatment
- Patient fall resulting in injury or death
- Patient death or injury in restraints
- Assault, rape, or homicide
- Transfusion error
- Perinatal death/loss of function
- Patient elopement resulting in injury or death

- Infection-related event resulting in injury or death
- Fire
- Anesthesia-related event resulting in injury or death
- Ventilator death/injury
- Maternal death
- Medical equipment–related event resulting in injury or death
- Abduction of any individual receiving care, treatment, or services
- Discharge of an infant to the wrong family
- Utility systems–related event resulting in injury or death

When a sentinel event occurs (or in some cases if it may occur), a team of not more than 10 people is assembled. They may conduct structured interviews, review documents and observe to establish a timeline detailing the sentinel event. Analysis of this data will look for failures (whether actual or latent) or absences (issues not addressed) in the system which contributed to the event. The focus is less on individual responsibility than on a broader picture.

At an early stage in the investigation, interim changes are devised and implemented. Then work continues to identify the systems involved in the event and their interrelationships. Ways to reduce the risk of the event reoccurring are then developed and implemented. The effectiveness of these actions is later evaluated.

RCA has been criticized. It may be susceptible to bias. One possible instance of bias is the cause of the moment being chosen as the root cause. For example, the previous focus on device malfunction has been shifted under RCA to staffing, management and information systems failures. The RCA process takes a good deal of time and properly trained personnel, both of which may be at a premium in a budget-stretched hospital setting.

Sentinel Event Reductions

One of the sentinel events is infant abduction. This is the policy one major hospital has implemented to combat this event:

- At the time of birth, before exiting the delivery room, mother, father and newborn are banded with ID bands bearing the same number.
- The staff of each unit wears a picture ID which is coded with the unit's color as well.
- The patient is instructed to never give her baby to anyone who does not match their picture ID with the correct color coding.
- When the nurse brings a baby to the mother, the nurse reads off the ID numbers on the baby's band and the parent or parents verifies the numbers on their bands by reading them back to the nurse. Continued ways are sought to shore up possible weak areas in patient protections.

Labor and delivery “Action Teams” are routinely formed. The job of the action team, consisting of staff members headed by a clinical supervisor, is to:

1. Formulate a problem.
2. Formulate an action plan.
3. From the plan, implement a policy.

For example, the problem formulated by the action team is the possibility of infant abduction. The scenario is an abductor getting pass security with an infant. A mock drill is performed. A person carrying a large bag might see if they can get pass security without a check.

If a hole in security is discovered, an action plan is formulated and a policy is put in place, directly addressing and preventing the possibility of abduction by those methods.

Chapter 4

Error Reduction and Prevention

Medication Error

One of the most common medical errors is also the most easily preventable....medication error. A case study in a 640 bed New York hospital showed an average of 2.5 medication errors per day.

In a sampling of 36 hospitals and nursing homes, one out of every five dispensed doses of medication was:

- The wrong drug
- The wrong dose
- Given at the wrong time
- Given to the wrong patient

A doctor hurriedly scribbling a prescription causing it to be misread is such a problem that some hospitals have sent doctors to a class to learn to write legibly.

If a prescription is misread, it could cause the ailment to advance and the patient to suffer from taking an unnecessary drug. The patient may have an ailment for which this wrong drug is contraindicated or the drug may duplicate another drug the patient is currently taking, causing a toxic reaction.

The patient may be allergic to a component of the medication. For example, the author has a friend who is allergic to thimerosal, a substance that is used to make flu vaccines. A vaccination for swine flu nearly killed him. He knew he could not have a flu vaccine ever again but he did not know that the eye drops his doctor gave him contained thimerosal, the same substance as in vaccine. Luckily, he only ended up with a rash on his eyeballs.

Adverse affects of a drug, some quite serious, may not be discovered until years after FDA approval. It is likely that the facility where the drug is commonly used will notice undocumented side effects before that declaration is made by the FDA.

Assumptions about medications or their administration have caused deaths. In the case of a 12 year old, a physician injected a drug into his spine instead of a vein, as was clearly indicated on the label, causing the patient's death.

Pharmacies and Medication

A Washington pharmacist made the mistake of dispensed Levothyroxine in place of Lanoxin twice in a 15 month period. As a result of the second error, a patient skipped 24 doses of heart medication, ingesting a thyroid medication instead. The

Washington pharmacy took steps post-incident to decrease what they termed the "rush" in part by scheduling pharmacists throughout the day. However, the board of pharmacy found the pharmacist negligent because it is the responsibility of the pharmacist to "deliver the drug that's been ordered and to check the prescription is the right drug, pulled and packaged in the right form." Further, the pharmacist did not have a detailed plan of action in place to prevent the second occurrence which meant he failed in his duty and as a result was disciplined by the board and placed on probationary status for 2 years. Of course, the pharmacist could easily face a civil law suit as well. Failure to adhere to a protocol or implement a policy where needed is considered negligent.

Common Pharmacy Errors

Common medicine errors at the pharmacy level are:

- Misreading the doctor's writing
- Misreading of similarly labeled drugs
- Wrong strength
- Wrong or crossed medication directions
- Cross contamination
- Failure to explain medication to patient

Many medications have similar spellings, labeling, and packaging which lead to medicine errors.

Preventing Medication Errors in Pharmacies

Inappropriate prescriptions are often waylaid by the pharmacist. The dosage or strength may not match the patient, leading to a toxic reaction. The directions may be incorrect which could cause the patient to take too little, too much or administer it improperly.

While in the process of writing this paragraph, the author received a call from a client. After hearing medication error was one of the most common medical errors, the client shared his story: His wife was having a prescription filled when the pharmacist asked the age of the patient. It was for their young daughter. The pharmacist explained the prescription was 10 times too strong for the child. The doctor who prescribed the medication had made a mistake in the dosage.

Pharmacies catch medication errors more easily if they have a policy in place that requires the pharmacist to do a "show and tell" for each medication, even if the patient is already familiar with the drug. Eighty-three percent of prescription errors are discovered in this simple step.

Similarly named medications should be double checked and separately stored in such a way as to prevent a pharmacist from mistakenly grabbing the wrong one. Codes and number references should be double checked. Storing and labeling should be done

with care. The work area should be well organized and free from clutter.

Distractions are a key problem when handling medication. US Pharmacopeia recommends the following methods of preventing distractions.

- Having policies in place that specifically forbid distractions or disturbances in areas such as compounding, cart-fill, medication administration.
- Have telephones for incoming calls placed away from those preparing, dispensing or administering medications but have telephones available for support if they need to call for verification.
- Have a checklist
- Have departmental and multi-disciplinary education sessions focusing on teamwork in creating and maintaining the appropriate environment for the purpose of handling medications.

Automatic dispensing systems reduce medicine error by selecting and labeling a vial, and counting, capping and sorting by name. The removal of extra manual tasks frees the pharmacists to focus on preventing medication errors.

Nursing and Medication Errors

If a doctor or pharmacist makes an error and a nurse has a role in dispensing or administering that medication, it is not uncommon for the nurse to take

most of the heat. Circumstantially, the nurse is the one closest to the actual event...the gunman that pulled the trigger, so to speak.

Research has shown that fatigue, understaffing, inappropriate medication verification and overall job dissatisfaction profoundly affect the number of medical errors made by nurses in the clinical setting. About half of all errors a nurse makes are medication errors.

Thus, some states such as Massachusetts are looking at constructing laws limiting the amount of hours a nurse works. Hospitals are implementing limited shifts and improving working conditions for nurses, partly as a result of medical error statistics but they have succumbed to the demands of nurses' coalitions as well.

Preventing Medication Errors in Nursing

Routine practices help prevent medication errors. The following is one hospital's procedure:

First, the nurse reviews his/her patient's med sheets, to determine what medication is to be given and when. Then the nurse signs the bottom of the med sheet. Next the med sheet is removed from the book and taken directly to the computerized drug system, also known as the med cart. Some research suggests that computerized drug systems that are

linked to pharmacies can reduce medication errors in hospitals by 86%. After the meds are pulled, the medication along with the med sheet is taken directly to the patient. Verification of the patient is then done by matching up the medical record number from the med sheet to the patient's ID band.

If the nurse suspects there may be a problem with the medication, the nurse must ask for further verification.

As one registered nurse put it, "Even if it is 3 o'clock in the morning and that doctor is furious at being woken up, too bad. It's the nurse's ___ that is on the line. They must get clarification and understand what the reason is for the orders. For example, if there is an order to administer Digoxin, a cardiac medication, and the nurse sees the patient has a heart beat of less than 60 beats per minute, the nurse has the right to withhold the medication for clarification." Had Digoxin been administered the patient would suffer decreased cardiac output. Obviously, every player should know their medications.

FDA Medication Error Control

As of July 20 2006, the FDA has this to say about what they are doing to curb the incidences of medicine errors. "We are partnering with the Institute on Safe Medication Practices to further refine our review of look-alike, sound-alike drug names, and will continue to evaluate our process before a drug is

approved in which a proposed drug name along with its labels and labeling are evaluated for their potential to cause medication errors... We plan to issue guidance for industry on drug naming, labeling and packaging..." Some consider this vague.

Chapter 5:

Patient Safety

Electronic Health Records

“The Electronic Health Record (EHR) is a secure, real-time, point-of-care, patient-centric information resource for clinicians.” EHR has these attributes:

- Secure (confidential) access to patient records at the locations where needed
- Available at all times reliably
- Checks input information for reasonableness and notes the time the information was input and the source
- Includes decision support tools to double-check medication
- Accepts information from “devices such as patient monitors, laboratory analysis equipment, and bar code scanners.” This can even include sources outside the unit, such as community pharmacies.
- Should be the primary source for physicians’ orders and for physicians’ and health teams’ documentation
- Makes paper patient records unusual
- Facilitates interdisciplinary treatment and scheduling
- Incorporates billing
- Provides mandated reporting

- Allows summary views of data (all patients with particular symptoms or all one doctor's patients, for example)
- Provides information for organizational-level review and planning

Two goals of centralizing all these functions in EHR are to reduce medication errors and to increase patient safety. Two of the ways EHR promises to reduce medical errors is by eliminating illegible handwriting and catching potentially harmful drug interactions. But as of 2004, E H R was largely a dream: only 10% of health care organizations in the US had installed such a comprehensive system.

Evidence-Based Medicine

Evidence-based medicine (EBM) is a movement (particularly since 1972) which says medical decisions should be based on the results of scientific studies, preferably "randomized, double-blind, placebo-controlled trials involving a homogeneous patient population and medical condition." The concept has been criticized because certain populations (women and racial minorities, for instance) are not researched as thoroughly as others; there are therefore fewer studies to derive decisions from for these people. Further, EBM is expensive and funding decisions may favor one disease or population over another, leaving others underrepresented for EBM decisions. Managed health care systems have already denied treatments based on lack of studies and thus an inability to apply EBM.

Mandatory Reporting

The IOM (Committee on Quality of Health Care in America, Institute of Medicine) appealed to Congress to set up a mandatory national reporting system to track errors. But pressure from the hospital industry dissuaded Congress and the recommendation fell flat.

In July 2005, the Patient Safety and Quality Improvement Act of 2005, a federal law, was passed. Though the bill appeared to be toting the IOM's finding and recommendations, it is believed by some to have completely missed the committee's point and sidestepped its objective. The new federal law made medical error reporting voluntary and without penalty, while the IOM's plan for reducing medical errors called for mandatory reporting.

At least 20 states have mandatory medical error reporting but state officials say state laws are being ignored and underreporting prevails.

Liability Protection for Disclosing Errors

Fear of malpractice or gross negligence suits, shame, embarrassment and intimidation by superiors are main reasons for failure to report medical errors. Using the success of a University of Michigan Hospital System program as a model suggests states

with liability protection for disclosing errors may have increased error reporting.

Currently, many states hold inadmissible in court the reports of medical error by health care providers. The provider may even apologize to patients and their families without their words ever making to court.

Even when human error is not at fault, health providers are reluctant to report. Death as a result of the failure of a medical device is supposed to be reported to the FDA. Doctor Susan Gardner, deputy director of the Office of Surveillance and Biometrics of the FDA, said "Guess what? They don't report."

Health Literacy

A case study of two U.S. hospitals suggests that between 26% and 60% of patients do not understand some elements of their care. These elements included: medication directions, a standard informed consent and basic health care materials.

This is a common problem for the elderly, those for whom English is a second language and those whose current literacy skills fall below average communication levels.

Ways of bridging these communication gaps are the use of videos, pictures, translators, and simple to understand brochures.

Influenced by a Committee on Quality of Health Care in America Institute of Medicine report on

patient illiteracy and the impact on medical cost, a coalition of national organizations called The Partnership for Clear Health Communication (PCHC) created a program called Ask Me 3. Ask Me 3 instructs patients to ask three questions concerning their health care

- What is my main problem?
- What do I need to do?
- Why is it important for me to do this?

The PCHD recommends health care providers follow certain communication guidelines to assist in the patient/health care provider communication.

- Create a safe environment where patients feel comfortable talking openly
- Use plain language instead of technical language or medical jargon
- Sit down (instead of standing) to achieve eye level with patient
- Use visual models to illustrate a procedure or condition
- Ask patients to "teach back" the care instructions given to them

One thing a many nurses fail to do is initiate patient education, either assuming the nurse from the previous shift had already done so or that it's the doctor's responsibility.

One nurse explains her initiation of a "teach back" method: "I tell the patient, "Someone has probably already explained this to you but I would

like to go over it again and I need you to ask me some questions about it." I don't let that patient go until I know for certain they understand everything they need to know about their health care."

Pay for Performance

Pay for performance is exactly what it sounds like: a health care provider is paid according the quality of their work.

In the United Kingdom, this program is already underway and has seen improvements in patient care. In the U.K. there are 146 quality indicators, covering clinical care for 10 chronic diseases, organization of care, and patient experience.

How this would play out in the U.S. is currently unknown. The insurance structures of the two countries are quite different. The UK's nationalized medicine has a long term stake in patient well-being whereas private insurance may be blindsided by more immediate gains in cost reduction.

Patient Advocacy

Decisions made by health care workers should be done with sole intent in establishing the well being of the patient. A nurse related the following example: "A patient came into labor and delivery. She was 33 weeks pregnant. Fetal heart tones were not reactive or reassuring...64...69...63. I was not told until an hour and a half into the shift that I was to be

charge nurse. There was no secretary, only a traveler (temporary nurse who works different hospitals), a scrub tech who was on call, and a registry nurse. It was my responsibility to make a determination in favor of the patient. I had to call the doctor at home and tell her to come in immediately. Sure, we could have continued to monitor the patient and wait to call the doctor in at a more crucial moment, but I had to determine what was in the best interest of the patient. Nurses are patient advocates, not doctor advocates.”

Hand Washing

The federal Centers for Disease Control have determined that hospital patients pick up infections at the rate of 2 million per year. Ninety thousand of those die. It has also been determined by the CDC that half of the infections could have been prevented through *proper hand washing*.

Johns Hopkins researchers conducted tests involving patient infection and catheters. The research encompassed over 100 intensive care units from local Michigan hospitals. The test was simple: the teams of doctors and nurses were required to adhere to rigorous hand washing, thoroughly cleaning patient skin at the catheter insertion site, avoiding the groin area as a site for catheter insertion, removing catheters as soon as possible and wearing sterile masks, gown and gloves.

After a year and a half, catheter-related bloodstream infections were reduced by 66%.

Hand washing is the exception rather than the rule according to People's Medical Society. Their studies also reveal that hand washing is related to status. Nurse's aides are more likely to wash their hands than doctors. "There is no evidence that hospitals are doing anything about this problem," say People's Medical Society. "This is one of the most common errors and one of the biggest problems confronting patients. And there's no pressure on hospitals to institute vigorous hand washing programs."

In short, hand washing is "the single most effective technique for preventing the spread of communicable disease."

Wash Hands Before and After:

- Eating
- Handling food
- Drinking
- Smoking
- Handling another person's medication or food
- Assisting another person with feeding or toileting
- Using the bathroom
- Protective clothing or equipment is used

Wash Hands Before:

- Handling clean equipment or utensils
- Handling contact lenses
- Using cosmetics
- Eating

Wash Hands After:

- Contact with any bodily fluids (including blood, secretions, excretions)
- Caring for another person and before moving on to the next person
- Blowing nose, sneezing, or coughing
- Playing with or handling an animal

The proper way to wash hands includes:

- Removing jewelry
- Washing for 10 to 15 seconds
- Washing between the fingers and under the nails
- Thoroughly drying
- Turning faucets off *using paper towels*
- Washing jewelry with soap and water before putting on again

This procedure would not apply to surgeons as surgery requires a more extensive hand washing ritual.

Avoiding Cross Contamination

The treatment table should be sanitized between patients with a washable or disposable barrier placed over it. Everything set up for the previous person whether used or intended to be used should be removed from the treatment area before the next person is admitted into the area to prevent accidental reuse.

If applicator wands are used, they should be sterilized or discarded after use.

Any tools used directly on clients must be sanitized or sterilized after each use or discarded.

There should always be a sanitary setup. The author visited a doctor whose nurse did not do a sanitary setup. Instead the nurse set the syringe and cotton that was going to be used for withdrawing blood directly on the exam table, not even on the paper sheet but directly on the vinyl. Yikes! All health related industries should have a sanitary setup, including massage therapist, estheticians and others.

Barriers

Gloves must be worn if there is a chance that the wearer will encounter bodily fluids. After use, gloves must be removed immediately. The touching of any non-contaminated item or environmental surface post-use must not occur.

Activities with the potential for splashing of bodily fluids call for the caregiver to wear a gown. After use, the gown should be taken off immediately and stored safely for cleaning or disposal.

We hope we made your class educational and entertaining. Thank you for using us to meet your continuing education needs. We hope you'll consider us in the future as well. Your feedback on this class is always welcome. Our e-mail is go@apollo123.com.

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