2017
Preventing Medical Errors

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What, Me Worry?

- Why should Healthcare Workers worry about medical errors?

Introduction

- Deaths from in-hospital medical errors may be up to 220,000 per year

- 18% of hospitalized patients will have 2+ errors

- Third leading cause of death in US

Put Another Way

Cause of Death	Annual Number (2015)	Annual Number (2016)
Cardiovascular Disease	770,000	617,348
All Cancers	540,000	591,699
Stroke	160,000	133,103
Lung Diseases	109,000	147,101

Ever Heard of a Medical Error?

- In Tampa: Wrong foot amputated
  - 40 wrong site surgeries every day in US
- Suicides in hospitalized patients
- Rapes in rehab facilities
- Chemotherapy
- Dana Carvey's coronary artery bypass surgery
- Assault in Long Term Care Facilities

How common is medical error?

- **An evaluation of complications associated with medications among patients at 11 primary care sites in Boston.**
- **Of 2258 patients who had had drugs prescribed, 18% reported having had a drug related complication, such as gastrointestinal symptoms, sleep disturbance, or fatigue in the previous year.**

What about these situations?

- Ebola infection

- MRSA infection

- Pneumonia

2016 IOM Report

TO ERR IS HUMAN, TO DELAY IS DEADLY

Objectives for Today

- 1. Identify "Medical Error"
- 2. Discuss the history of medical errors research
- 3. Differentiate ethics and law
- 4. 5. Define fault
- 6. List practitioner practices to reduce risk of error
- 7. List patient/client practices to reduce risk of error
- 8. List the procedure to follow if an error is discovered
- 9. Pass the Post Quiz

To Err is Human

- Institute of Medicine Report (1999), updated 2006, 2009, 2010
- Defined "medical error" as not just "medicine or drug error"
- Defined "never event" and "adverse" event
- Discovered the magnitude of "medical errors"

Licensure Requirements

- 1999: Institute of Medicine: Committee of Quality Healthcare wrote:

- _To Err is Human:Building a Safer Health System_

- 2001: Florida legislature passed a law mandating all healthcare professionals take a 2 hour course in medical error prevention **Every TWO YEARS.**
- 2006: Update IOM report
- 2010: Update IOM report

National Safety Council

Steps Needed to Improve Medical Safety:

1. ID patients clearly
2. Improve communication
3. Prevent infections
4. ID risks: suicide, infections
5. Prevent surgical mistakes

Research Sites

- National Patient Safety Foundation: http://www.npsf.org
- National Quality Forum: http://www.qualityforum.org
- Institute of Medicine: http://www.iom.edu

Medical Error

- **The failure to use the plan of care or the use of the wrong plan of care**
- Not necessarily preventable
- When the correct plan was not executed as intended
- Not all are grounds for malpractice

* Not intentional, not all are malpractice or negligence, not all result in harm or death

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Institute of Medicine 2016 Update

- Hospital patients have at least one error/day
- 1.5 million overdoses per year in the United States
- ICU patients have 1.7 errors per day per patient
- Over 3 million errors happen every year in the U.S.
- 52% occurred in outpatient settings

Medical Harm

- "Unintended physical injury resulting form or contributed to by medical care (including the absence of indicated medical treatment), that requires additional monitoring, treatment, or hospitalization or that results in death." (IHI, 2006)

Most Critical Times

- Emergencies
- Pediatrics
- Obstetrics
- Intensive Care
- Certain drugs
- Increased workload

Ethics vs. Law

- Actions of people are regulated by ethics & laws.

- Ethics- beliefs of appropriate behavior in society.

- Laws- enforcement of conduct imposed by penalties for violations.

Healthcare Professional Ethics

- Ethics- principles concerning the action of the nurse in relationships with others (patients, families, health care providers, policy makers)

- Code of Ethics- ANA
Ex: A healthcare provider's primary commitment is to the patient.

Ethical Dilemmas

- Situations for where there are no clear right or wrong answers
- Compounded by diverse society in which nurses and hygienists practice
- Almost two sides to every issue

Values

- Ethical dilemmas are further compounded by personal values.

- Values- are personal beliefs about the worth of something that acts as a standard to guide actions & behavior

- We all must examine their own values

Tort Law

- Tort: a wrong or injury committed by one person against another person or a property.

Two types:
Unintentional
Intentional

Unintentional Tort

- Negligence- failure to act in a reasonable and prudent manner.
  Could be a lay person or a student nurse, licensed professionals.

- Malpractice- is negligence, misconduct, or breach of duty by a professional person that results in injury or damage to a patient.

Malpractice

- Malpractice in most cases includes a failure to meet or deliver a:
  standard of care
        or
  standard of practice

Standard of Care

- The care a patient should expect to receive under similar circumstances. It is based on professional literature (text, journals) protocols, and expert opinions.

Standard of Care

- Derives from:
  - facility policies and procedures
  - job descriptions
  - professional standards and scopes of practice (ADA)
  - expert professionals who provide information on what is reasonable, careful, and prudent care.

Is 99% OK??

- If airlines had 99% accuracy,
- 9000 crashes would occur every day

Intentional Tort

- **Defamation of character-**
  - Libel: written word
  - Slander: spoken word
- **False impriso**nment- unlawful restraint against the persons wishes
- **Assault-** causing a person to fear being touched without consent
- **Battery-** actual harmful or offensive touching

Proof Needed for Malpractice

- Professional had a duty to the patient
- Professional breached that duty
- A patient injury occurred
- A causal relationship exists between the breach of duty and the patient injury

Malpractice

- Failure to follow standards of care
    - fall precautions, following proper procedures, wearing gloves or mask
- Improper use of equipment
- Failure to communicate
- Failure to document
- Failure to assess and monitor
- Failure to act as a patient advocate

Liability

- Liability is tied to negligence & malpractice

- Liability- being legally responsible for harm caused to a person/property as a result of one's actions

Reducing Liability

- Be aware of state statutes
- Render services only if knowledgeable to act
- Refuse tasks that cannot be performed safely & competently
- Use good communication & documentation
- Give high quality care
- Delegate & supervise correctly
- Manager- make sure staff has had adequate training, performance evaluations

How Bad is the Problem??

- In 1999, the IOC estimated that 98,000 die each year in America due to medical errors
- 1.5 million are sickened or killed by medication errors
- 90,000 die each year from nosocomial infections
  - MVA kills 43,458
  - Breast cancer kills 42,297
  - Aids kills 16,516

PREVENTABLE COMPLICATIONS ("NEVER EVENTS") NO LONGER COVERED BY MEDICARE AND MEDICAID
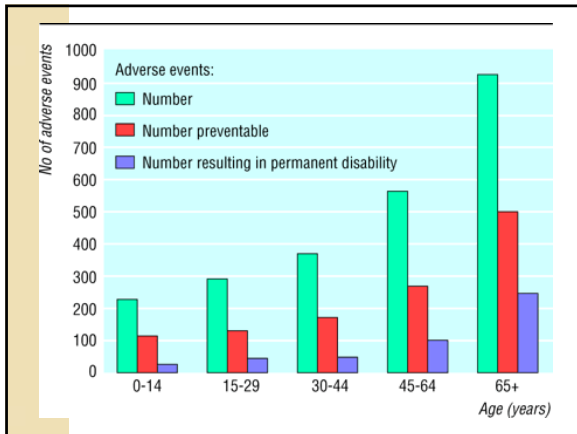
- Foreign object retained after surgery
- •Air embolism
- Blood incompatibility
- •Stage III and IV pressure ulcers
- •Falls and trauma,
- •Fractures and dislocations
- •Crushing injuries, Burns, electric shock
- •Most infections
- •Manifestations of poor glycemic control: ◦Diabetic ketoacidosis

Types of error

- About half of the **adverse events** occurring among inpatients resulted from surgery.
- Next come
  - ◦ Complications from drug treatment
  - ◦ therapeutic mishaps
  - ◦ diagnostic errors were the most common non-operative events.

Types of error

- Cognitive errors--such as incorrect diagnosis or choosing the wrong medication-- more likely to have been preventable and more likely to result in permanent disability than technical errors.

No of adverse events

Adverse events:
- Number
- Number preventable
- Number resulting in permanent disability

1000
900
800
700
600
500
400
300
200
100
0

0-14   15-29   30-44   45-64   65+

Age (years)

Common Times for "Never Events"

- Surgical site infection following: ◦Coronary artery bypass graft (CABG) - Mediastinitis
- ◦Bariatric surgery, Laparoscopic gastric bypass
- ◦Gastroenterostomy
- ◦Laparoscopic gastric restrictive surgery
- ◦Orthopedic procedures: Spine, Neck, Shoulder, Elbow

- •Deep vein thrombosis (DVT)/pulmonary embolism (PE) following total knee replacement or hip replacement
- •Surgery on the wrong patient, wrong surgery on a patient, and wrong-site surgery

- Source: CMS, 2015

Active vs. Latent Causes of Errors

- Active: Inaction or wrong action

- Latent: Poor procedures, errors slip through the cracks

Primary Causes of Error

- Inexperience
- Fatigue and overwork
- Alcohol and drug use
- Communication drops
- Distraction
- Hard to read writing
- Emotional distress

Never Event

- An event that signals a problem with supervision, planning or implementing a plan of care. This error has lead to an unanticipated death.
- Examples:
  - Suicide of a patient
  - Infant abduction or discharge to a wrong family
  - Rape
  - Hemolytic transfusion reaction
  - Surgery to the wrong patient, body part
  - Infection transmission

Documentation of Never Event

- Documentation of a never event **is required.**
- The healthcare organization is required to:
- Have a reporting process
- Conduct thorough and credible root cause analyses that focuses on the system
- Focus on prevention

Adverse Event

- When a medical plan does not go as planned when it could not have easily been prevented:
  - Allergic reaction to a drug
  - Adverse reactions to a drug
  - Poor healing of a surgical wound
  - Delay in care

Adverse Events

- Florida Law: An event over which healthcare personnel could exercise control and which is associated in whole or in part with medical intervention rather than the condition for which such intervention occurred.

Examples of Adverse Events

- Surgery: wrong patient, surgical procedure, wrong site, unnecessary procedure
- Surgery requiring more surgical repair
- Surgery requiring removal of previous surgery gauze, etc.

Adverse Event Requirements

- Results in:
- Death
- Brain or spinal damage
- Permanent disfigurement
- Fracture
- A resulting limitation of neurological, physical, sensory function
- Any condition requiring a specialist resulting from an intervention
- Any condition requiring the transfer of the patient ot another facility for further care.
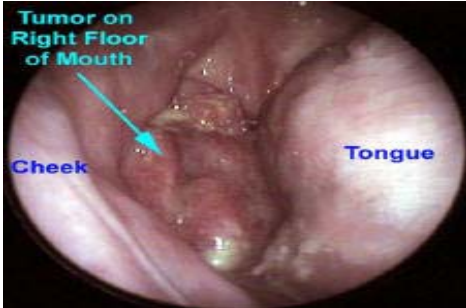
Case Study I-Out of Sight Out of Mind

- You receive a letter from an attorney about a patient who has oral cancer. You remember the patient and remember seeing an open sore in his mouth. You had referred the patient to an oral surgeon by mail after seeing the patient. The patient never went and now is being treated for melanoma of the mouth.

Oral Cancer

Oral Cancer

Tumor on Right Floor of Mouth

Cheek

Tongue

Case I

- The patient blamed you for not referring him to a specialist.
- What is your first reaction?
  - A. Call the patient to explain that you sent him a letter
  - B. Blame the oral surgeon for not following through
  - C. Blame the patient
  - D. Analyze the process you followed to notify the patient

Case 2: It's the Little Things…

- You are planning to perform dental hygiene on a 34 year old. You ask her to swish and spit mouthwash and take her history and then begin the procedure.
- After about 5 minutes, the patient's face becomes red and she becomes very anxious. She seems to have red blotches on her face and is short of breath.

Case 2

- You ask her if she is allergic to Latex and she says yes.
- You call 911 and they provide an adrenalin (epinephrine) injection and she is fine.

Case 2

- What happened?

- How could this have been prevented?

- What would you change in the process of beginning the procedure based on this case?

Case 3

- Patient is on Coumadin. PT/INR was ordered but the blood test was not done. Follow up orders were never written because the blood work was never done. The patient had gastrointestinal bleeding.
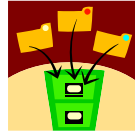
Case 3

- What happened?
- How could this have been prevented?
- What could have helped to prevent this from occurring again?

Primary Causes

"Practice makes perfect"
OR
"Perfect makes practice"

Two Categories of Causes of Error

- Systemic

- Human

Question for YOU

- When involved in a medication error, nurses, dietitians, hygienists, etc., often:

___A. Hide the error
___B. Tell everyone they know
___C. Lose confidence

Categories of Failures

- Error of execution-Correct action does not proceed as intended

- Error of planning-original intended action is not correct
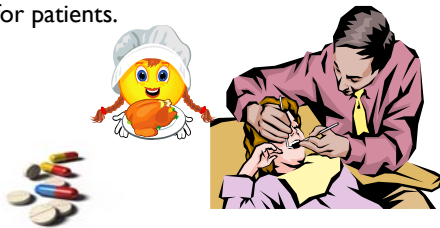
Types of Errors

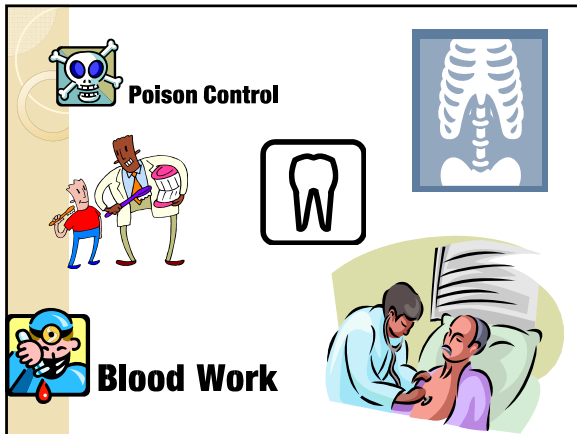- Equipment errors
- Communication errors
- Prescription errors

Your Turn…

- The patient is admitted and tells you his medications but does not have a list. What types of problems could occur from this situation?

Location of Errors

- Medical errors are intended to cover any location where medical personnel are caring for patients.

Poison Control

Blood Work

Maintaining Sanitary Conditions

Preventable Adverse Reactions or Never Events

- Medical errors that do result in harm to the patient, like nosocomial infections.
- Example: Patient dies of pneumonia 2 months after a hospitalization.
- (The grey area)
- They signal a need for immediate investigation and response.

Near Miss

- An error has occurred but there was no harm to the patient.

- Wrong diet, wrong medication, breaking sterile technique but not harm resulted.

Case 4: Where is the Blame?

- The patient comes for care in the dental office. Most of the care can be completed but the xray data is not available. You explain this to the patient. The patient is asked to return to complete the appointment.
- To your surprise, the patient becomes irate about having to come back.

Case 4

- What would you do first in this situation?

JCAHO or DNE or ACHA

- Recognize and have established guidelines for reviewing near misses, adverse and never events.

- Root cause analyses are required

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JCAHO/DNE

- Require this submitted plan within 45 days of the NEVER event

- Included in the report: Implementation plans, individuals responsible for the implementation and effectiveness of the plan

_____

_____

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ACHA Agency for Healthcare Administration

- Florida requires healthcare facilities to have a risk management department
- Incident reports are to be submitted to Risk Management within 3 days of the occurrence and serious incidents must be reported to AHCA within 24 hours of submission of the incident report.

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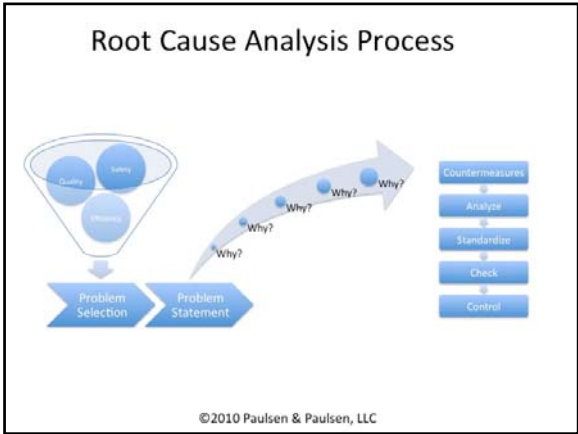
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ACHA

- For serious events, (death or permanent disfigurement) must be notified in 24 hours of the incident
- For all others: report to AHCA within 15 days of the incident
- Failure to comply will result in up to $25,000 per violation
- All members of the facility must be aware of these regulations.

Quality Assurance/Risk Management

- Track errors
- Analyze Causes

Root Cause Analysis

- Root cause analysis should keep delving into the cause asking "why?"

- Never Stop Asking "Why"

Root Cause Analysis Process

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Why?

- Why did an error occur?
- What led to that error?
- What led to the cause of that error?
- What could be different?
  - Documentation, equipment, labeling, etc.

Root Cause Analysis Includes:

- Determination of human and other factors associated with the event
- Analysis of underlying systems and processes through a series of why questions
- Inquiry into all areas appropriate to the specific type of event
- Identification of risk points
- Areas of potential improvement

What if?

A patient has a hysterectomy at age 35. At age 64, she develops an infection from a suture that became irritated or colonized an infection over the years.

Is the physician responsible?

What If??

- A patient with known heart disease gets his teeth cleaned without having taken a prophylactic antibiotic?

- Now, what if he becomes ill with endocarditis?

What if?

The patient comes to the ER with chest pain and is told it is a gastrointestinal disorder and is sent home….then has a heart attack?

Is someone responsible?

Credible Analysis

- Organization's leadership must participate in the review with individuals most closely involved
- Analysis should be internally consistent
- All questions must have a response. There is never a place for an unanswered question or "not applicable"
- Must include all relevant research and literature

Question for YOU

- Accurate reporting of medical errors is important because:
- A. Future errors can be prevented
- B. The proper person can be punished
- C. The patient can be rescued

How to think of error?

- A systems failure
  - This is the starting point for redesigning the system and reducing error

Most Common Errors

- Bed sores
- Patient Suicide
- Operative and post-operative complications
- Medication errors
- Wrong-site surgeries
- Patient Falls

Common Misdiagnoses

- Cancer
- Neurologic Conditions
- Heart Attack
- Urologic issues
- Surgical complications

How to respond? Tactics

- Reduce complexity
- Optimize information processing
  - checklists, reminders, protocols
- Automate wisely
- Use constraints
  - for instance, with needle connections
- Mitigate the unwanted side effects of change with training, for example.

Suicide Prevention

- Safe environment of care: security, breakaway bars, rods, safety rails
- Patient assessment methods: complete, clear, correct, suicide assessment at intake
- Complete and frequent reassessments
- Adequate staff, adequate staff training, orientation, and staffing levels

Preventing Operative Errors

- Includes: endoscopy, tube, catheter insertion, orthopedic and thoracic surgery.
- Follow established procedures
- Staff orientation
- Monitoring that is adequate
- Respect between members of the surgical team
- Sign out

Medication Errors

- By far the most common, 5% are dispensed incorrectly: wrong form, manufacturer, quantity, strength, drug, instructions

- Three points of error: when ordered, dispensed, administered

- Abbreviations

Medication Errors

- There are five stages of the medication process:
- 1. Ordering and prescribing
- 2. Transcribing and verifying
- 3. Dispensing and delivering
- 4. Administering
- 5. Monitoring and reporting

Medication Errors

- The three most common errors are:
- • Omission errors
- • Improper dose/quantity errors
- • Unauthorized drug errors (the medication dispensed and/or administered was not authorized by the prescriber); this category includes dispensing or administering the wrong drug.

Medication Rights

- Time
- Dose
- Frequency
- Drug
- Patient
- To Refuse
- To have knowledge
- Route
- Documentation
- Reassessment

Preventing Medication Errors

- Do not use "u", use "units"
  - QD use daily
  - QOD use every other day
  - QID use four times a day
  - DC use discontinue or discharge
  - No trailing **0: 0.2 mg is ok. .20 is not**

Preventing Dispensing Errors

- Maintain current drug references
- Have access to current correct patient info: allergies, age, weight
- Require clarification of incomplete errors
- Use unit dose as much as possible
- Require double-check on all dosing
- Enhance awareness of look-alike and sound-alike medications

Medication Sound Alikes & Look Alikes

- Celebrex   Celexa
- Inderal   Indocin
- What about Lidocaine: 1:1000, 1:10,000
- Flomax---Volmax
- Avandia---Coumadin if written sloppily
- Flu vaccines
- Hep B, HPV

- **Abbreviations Intended Meaning Misinterpretation**
- AD, AS, AU : Right ear, left ear, each ear

- Confused with: OD, OS, OU (right eye, left eye, each eye)

- Solution: Spell out "right ear," "left ear," "each ear"

Facility Responsibilities

- Maintain staff knowledge of medications
- Resolve issues with medications promptly
- Only administer labeled medications
- Utilize standard medication times
- Verify dosages with a second person
- Adequate education on new devices
- Double-check infusion pump settings
- Document medication administration immediately

Seven Pillars

- Report incidents that could harm patients.
- Investigate those cases and fix problems before an error happens.
- Communicate when an error occurs, even if no harm was done.
- Apologize and "make it right" by waiving hospital and doctors' fees.
- Fix gaps in the system that can cause things to go wrong.
- Track data from patient safety reports and see if changes make things safer.
- Educate and train staff how to make care safer

Follow Up Sessions

- Time and date of the visit.
- Lab data and measurements
- Progress to goals
- Adjustments to CarePlan
- Interventions -- New and reinforcement
- Barriers and solutions
- Next Follow-up appointment
- Appointment failures, and other ways that the patient is not cooperating with the therapeutic plan
- Follow-up plans

Question for YOU

- Strategies identified by health care agencies to reduce the risk of future errors or accidents are termed:
- A. Policies
- B. Law
- C. Action Plans

Quality Assurance!!

- Look for triggers
- Look for improvements
- Look for trends

Wrong Site Surgery

- Most commonly in orthopedics

- Surgeons are now required to initial proper site with indelible ink prior to surgery: Not required in dentistry
- Errors most commonly found when surgeons are very rushed

Preventing Falls

C. Everett Koop (Former Surgeon General): "The most common cause of early death in the elderly is a fall with fractured hip."

Falls

- Most common:
- Elderly
- Altered vision
- Altered mentation
- Illness
- Intoxication
- History of prior falls

Preventing Falls

- Assessment is crucial: history of falls and communicate mobility problems to all staff
- Complete and accurate plan of care
- Bed alarms
- Safe and uncluttered environment, rugs and clutter, stairs, uneven floors, restraints

Surgically Relevant QI Practices

- Appropriate prophylaxis (anticoagulants and antibiotics)
- Sterile barriers
- Beta blockers as appropriate
- Informed consent confirmation
- Continuous aspiration of subglottic secretions to prevent pneumonia

Nonmedical System Techniques to Prevent Error

- Simplify or reduce handoffs
- Reduce reliance on memory
- Standardize procedures
- Improve information access
- Use constraining or forcing functions
- Design for errors
- Adjust work schedules
- Adjust the environment
- Improve communication and teamwork
- Decrease reliance on vigilance
- Provide adequate safety training
- Choose the right staff for the job

20th Century compared to 21st Century Practice

20th Century	21st Century
Autonomy	Teamwork/Systems
Solo practice	Group practice
Knowledge	Multidisciplinary problem-solving
	Change
Infallibility	Continuous improvement

Building a safe healthcare system (from James Reason)

- **Principles**
  - Safety is everybody's business
  - Top management accepts setbacks and anticipates errors
  - safety issues are considered regularly at the highest level
  - Past events are reviewed and changes implemented

Building a safe healthcare system (from James Reason)

- **Policies**
  - Safety related information has direct access to the top
  - Risk management is not an oubliette
  - Meetings on safety are attended by staff from many levels and departments
  - Messengers are rewarded not shot
  - Top managers create a reporting culture and a just culture

Bundle for Ventilator Assisted Pneumonia

- Elevation of the head of the bed to between K-line 30 and 45 degrees
- Daily "Sedation Vacation" and daily assessment of readiness to extubate
- Peptic ulcer disease (PUD) prophylaxis
- Deep vein thrombosis (DVT) prophylaxis (unless contraindicated)
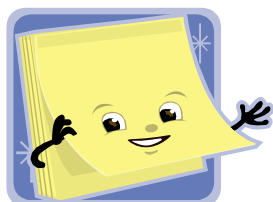
Bundle for MI Prevention

- Early administration of aspirin
- Aspirin at discharge
- Early administration of beta-blocker
- Beta-blocker at discharge
- ACE-inhibitor or angiotensin receptor blockers (ARB) at discharge for patients with systolic dysfunction
- Timely initiation of reperfusion (thrombolysis or percutaneous intervention)
- Smoking cessation counseling

Role of the Patient to Prevent Medical Errors

- Patient Education
- Federal Initiatives
  - Take Time to Care
    - A national public awareness campaign about safe medication use

The Agency for Healthcare Research and Quality Developed Twenty Tips for clients

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Twenty Tips to Remember

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20 Tips

1. The patient becomes an active part of the healthcare team
2. Patient carries an accurate and current list of all medications
3. Patient informs all healthcare providers of allergies and adverse reactions experienced
4. Patient is able to read the prescription

20 Tips

5. Patient understands each medicine, purpose, side effects, how to take it
6. Check that the pharmacist has filled the prescription correctly
7. The patient asks for clarification if needed.
8. Patient asks the pharmacist for the best administration device (liquid medicines)
9. Patient shares information about the medication, including side effects, with family members.

20 Tips

10. Patient chooses a hospital where they have done many of the intended procedure
11. Patient is aware that all hospital personnel wash their hands before coming in contact with them.
12. Patient receives clear discharge instructions
13. Patient and referring doctor are involved in the surgical plan.
14. Patient should not be afraid to ask questions

20 Tips

15. Patient is assured that one physician is in charge of their care.
16. Patient should ensure that all healthcare providers have access to all pertinent health care.
17. Patient should have a family member or friend along when receiving medical information.
18. Patient should know that "more" is not "better."

20 Tips

19. Patient should call for test results, "No news is not always good news."
20. Every patient should learn as much as possible about their condition.

Make Your Own Medical Record

Name/Date/Physician/Insurance/Pharmacy

Contact Info for each

Past Medical History: Diagnoses

Past Surgical History

Social History: Marital status, ETOH, smoking, drugs

Allergies

Medications Taken (when) and Taking now, include OTC and herbals

Conclusion

- Medical errors are still a problem.
- We can all be part of the solution.

Questions???

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- JCAHO evaluates the quality and safety of care for nearly 15,000 health care organizations. To maintain and earn accreditation, organizations must have an extensive on-site review by a team of JCAHO health care professionals, at least once every three years. http://www.jcaho.org/

- The National Coordinating Council for Medication Error Reporting and Prevention NCC MERP is an independent body comprised of 24 national organizations. http://www.nccmerp.org/

Food and Drug Administration: www.fda.gov/medwatch/how.htm

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